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SOUTHERN TEXTILE BULLETIN

VOL. 32 CHARLOTTE, N. C., THURSDAY, MARCH 10, 1927 NUMBER 2

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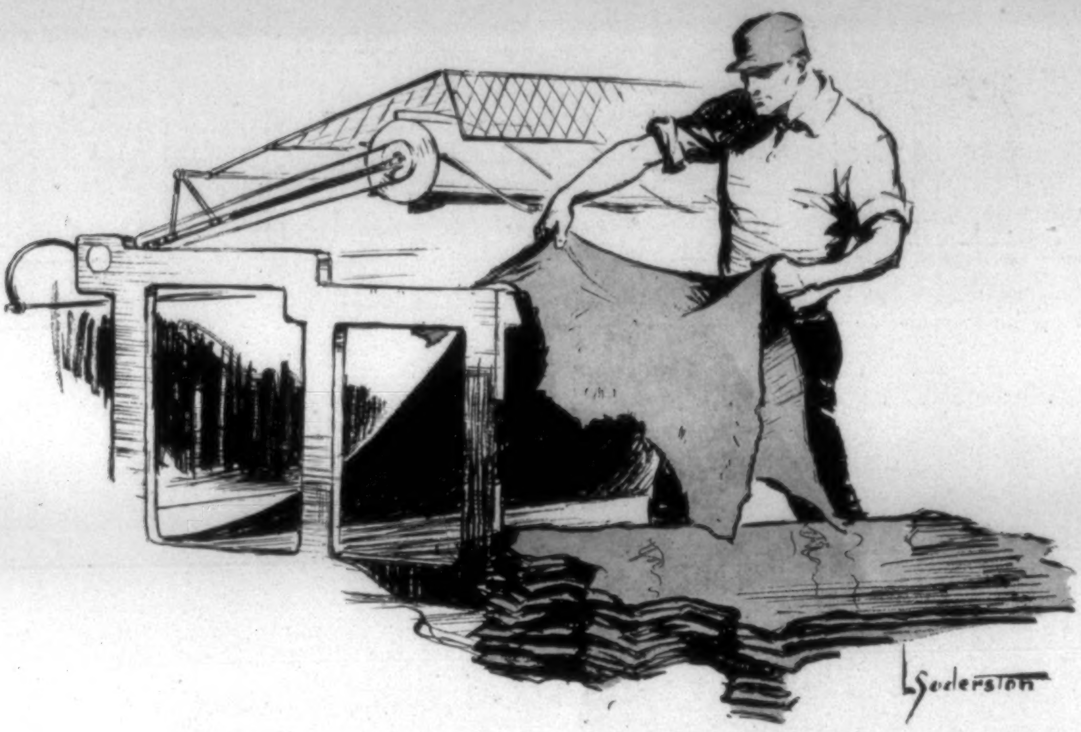

This gentle giant brush cleans off the hair and dirt

THIS thing with a front like an old fashioned street car fender is in reality a giant brush. When the hide reaches this stage in its journey, this revolving cleaner gently removes the last bits of hair and dirt. It is the Pullman porter of the Graton & Knight tanning process and it does a thorough job.

The operator is shown placing in this machine a belting hide that has had a week's bath in milk of lime. This soaking has loosened the hair and softened the dirt and foreign substances in the hide.

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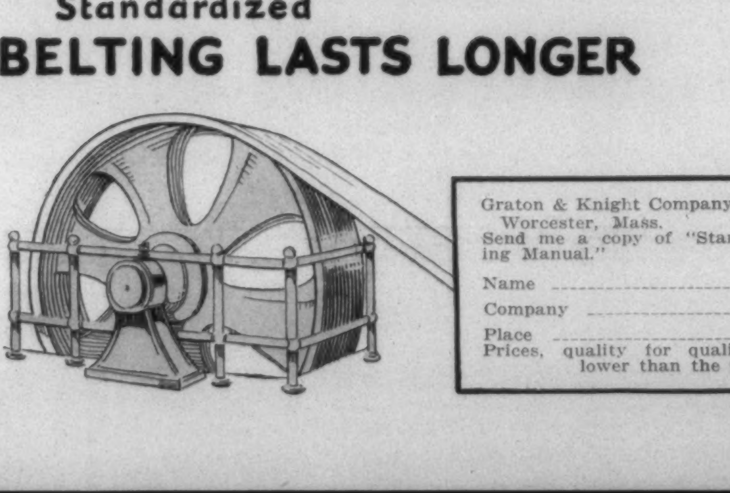

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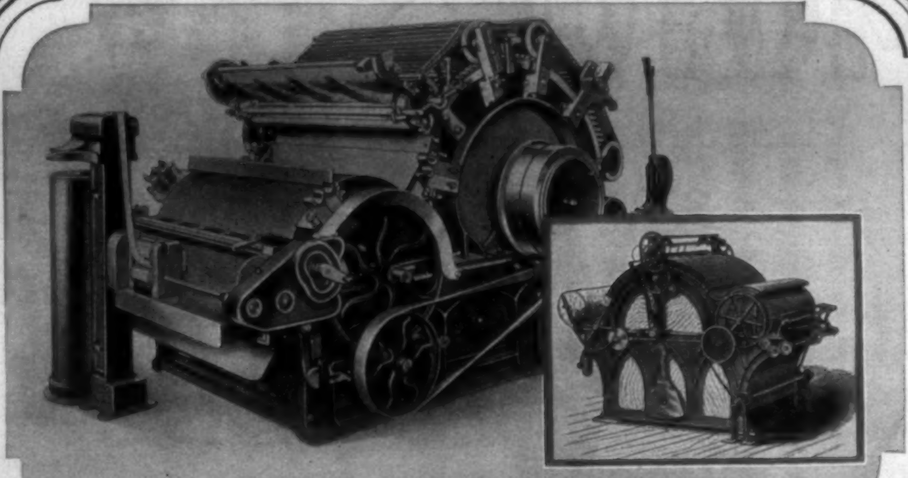

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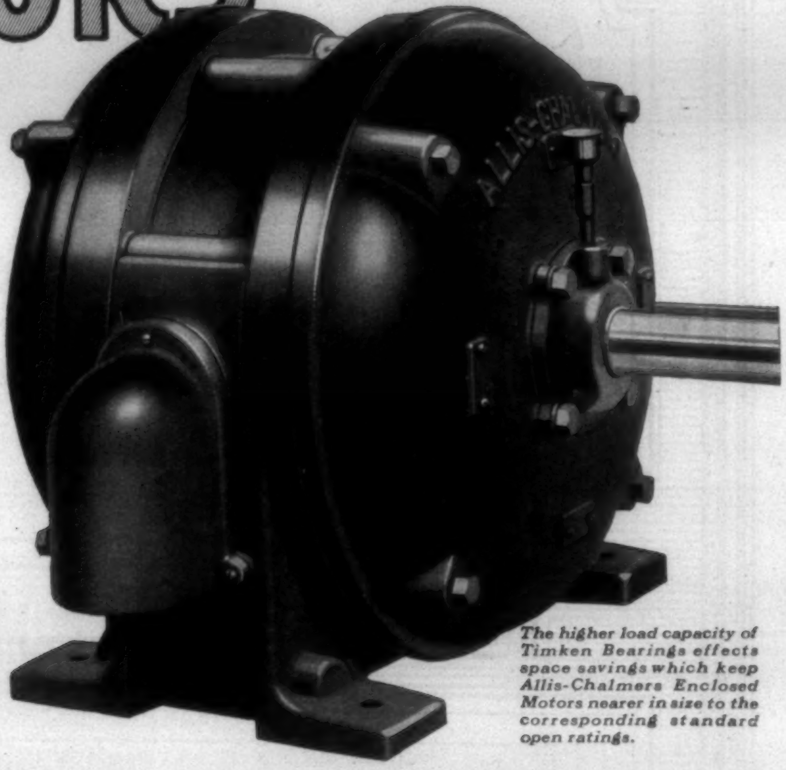
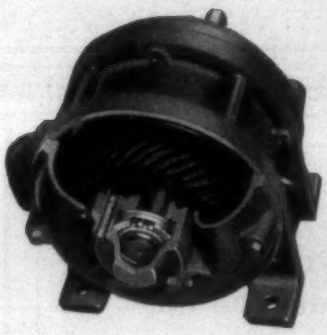


The higher load capacity of Timken Bearings effects space savings which keep Allis-Chalmers Enclosed Motors nearer in size to the corresponding standard open ratings.



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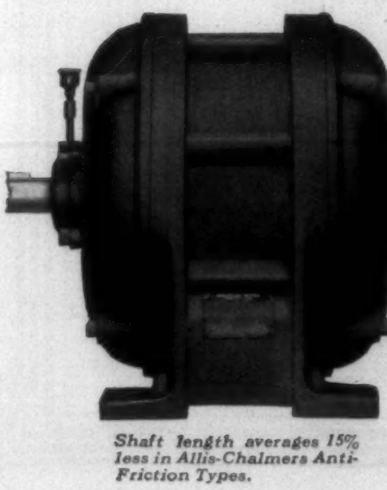
Every motor user is interested when the Allis-Chalmers name is on motors that can be kept wear-proof with only a very few greasings yearly!



Shaft length averages 15% less in Allis-Chalmers Anti-Friction Types.

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District Sales Offices in all Principal Cities

For finishing machinery, too!

IT is natural that the promotion of economy, accuracy, and quality attributed to Hyatt equipped fabricating machinery should lead to the desire for similar results from finishing machinery.

Indeed, the application of Hyatt Roller Bearings to mercerizers is one of the outstanding textile mechanical achievements of the last decade. Prior to the adoption of Hyatts, bearings on caustic, top carrier, and squeeze rolls were ever a source of trouble. Now Hyatts are established as a practical standard—universally used and specified.

Although the chief advantage derived from Hyatt applications to finishing machinery is their durability and consequent freedom from repairs and replacement, the fact that they may be lubricated with grease, and not leak oil, is important. For yarn and cloth spotted in finishing is avoidable waste.

Hyatt Roller Bearings also are preferred on the main shafts of fulling mills and washing machines, where prominent manufacturers endorse them because of their freedom from trouble, their power saving, and lubrication advantages.

The generous overload capacities of the high-duty type Hyatt—its compactness—and true anti-friction action, even when sparsely lubricated, make it an ideal unit for any textile machinery application. It is giving unusual service in dye pads, mangles, washers, fulling mills, mercerizers, tenters, etc., where constant operation is of paramount importance.

For the assistance of mill owners whose engineering facilities are limited, the Hyatt Roller Bearing Company engineering department will design and supervise the installation of Hyatt bearings in their equipment. There is no charge for this service.

Textile Finishing Company's Warp Mercerizer—Hyatt equipped

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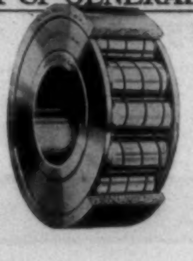
PRODUCT OF GENERAL MOTORS



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The textile production man who employs mechanical mixtures of alkalies in his dyeing and bleaching processes is handicapped by the fact that he is working in the dark—for such mixtures vary in strength and composition. True, the same materials may have produced satisfactory results yesterday. But there is no assurance that results will be equally satisfactory today.

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CARTER BROTHERS of Chattanooga, Tenn., have built up a splendid business in yarn-dyed washable rugs.

These rugs are of a novel, patented pile construction, providing excellent sales arguments, but the feature that gets attention and creates desire is the colors,— bright, harmonious, even, solid shades.

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4.—The Franklin Package is the most convenient and economical form in which to handle the yarn.

Franklin Process Service can deliver dyed yarn on parallel tubes of any standard size, on cones or on cops, thus saving the customer the cost of extra winding equipment. It can also assist in a merchandising way, not only suggesting appropriate shades and attractive combinations, but also suggesting factors in the market interested in a given product.

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of dyed yarn. It will deliver freely either rotating or over end.

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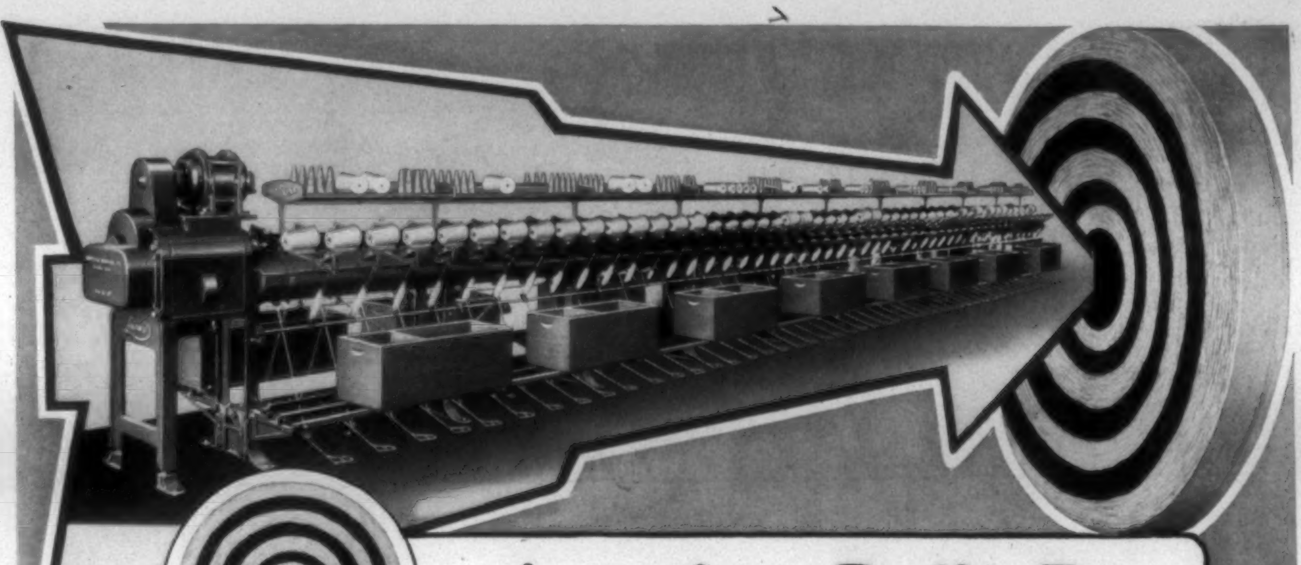

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Two essentials to success in any business are a clearly defined target and an unwavering aim. A third of a century ago the Universal Winding Company established for itself, as a goal or target, "the solution of every winding problem."

Since then this Company has built over 2,000,000 winding spindles and marketed over fifty different kinds of winding machines. Many of the originals are still the only outstandingly successful mechanisms of their kind on the market.

This Company is at present the largest organization in the world making winding machines exclusively. Supremacy in size is the logical result of supremacy in demand. Supremacy in demand follows leadership in conception, execution, materials, and service.

LIKE many other Leesona products, this machine is an outstanding achievement of good marksmanship, but in its creation straight shooting has been supplanted by straight thinking, plus the highest type of technical ability and craftsmanship.

It is distinguished by high operating speed, low power consumption, exceptional durability, and uniformity of product. Because of its high speed it also naturally requires less floor space for a given production than ordinary spoolers or winders. It requires less than 3 h. p. to operate one of these machines with 98 spindles at a yarn speed of from 450 to 600 yards per minute.

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SOUTHERN
TEXTILE BULLETIN

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VOL. 32 CHARLOTTE, N. C., THURSDAY, MARCH 10, 1927 NUMBER 2

*Tensile Testing of Textiles**

By W. F. Edwards, U. S. Testing Company, New York

THE practice of guessing the tensile strength of yarns, threads or fabrics by tactile and muscular senses has doubtless come down to the present time from a beginning lost in a remote past. The method is still in use on light yarns or fabrics, and, in the hands of a person handling such yarns or fabrics every day, year after year, may give a very good indication of relative strengths, but does not furnish reliable numerical results.

Early Types of Testing Instruments.

Numerical estimates were first attempted by the application of an ordinary spring scale with a hook attached, to which a yarn or thread could be tied and then pulled by the hand, holding the yarn or thread at a fixed distance from the hook until it broke. The operator read the scale continuously in order to have an approximately accurate reading at the time of breaking. Improvement was made by adding a device to prevent the recoil of the spring at the break until the reading had been made and recorded.

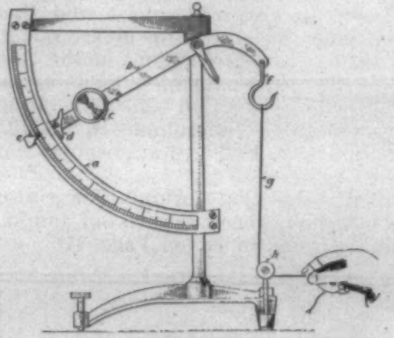

Fig. 1
Early Type of Deadweight Testing Instrument

The reliability of the spring-balance method was questioned and the easily abused spring was replaced by a weight which introduced the inclination-balance or "deadweight" type of machine. A pointer moved along a graduated quadrant which gave the breaking strength directly. The deadweight instrument is provided with a device to prevent the sudden return of the weight after the break and to hold it at the breaking point until the reading has been taken and recorded. A form of this primitive instrument is shown in Fig. 1. It is obvious that, in both the spring-balance and this type of inclination-balance machine, the rate of stretch was likely to be quite variable, since in both cases the power was a voluntary muscle controlled by the operator.

Present-Day Instrument

The inclination-balance type of testing instrument or machine of the present day is in principle the same as that shown in Fig. 1. Some are still hand driven, but where results are to be compared to any reasonable degree of accuracy, the machines should be power driven and furnished with devices to insure an approximately uniform rate of stretch from the beginning to the end of the pull.

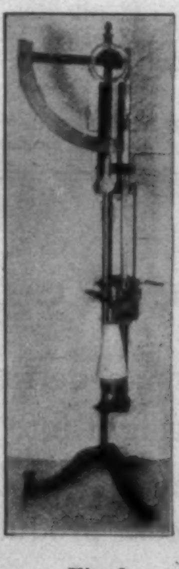

Fig. 2
Common Pump-Plunger Type of Tester

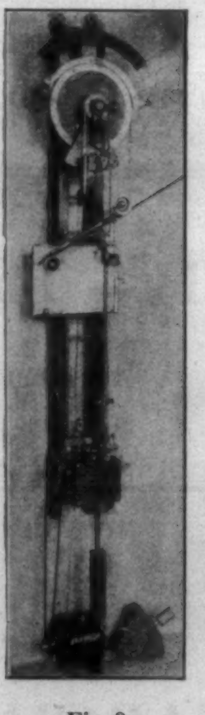

Fig. 3.
Electric - Motor-Driven Type of Tester with Automatic Recording Chart

Two ways of producing a uniform rate of stretch are in common use. The pump-plunger weight motive power is most common in single-strand testers, and a screw driven by a constant-speed electric motor or constant-speed belt is used for heavier machines. Fig. 2 is an illustration of a common pump-plunger type of single-strand tester, and Fig. 3 is an electric-motor-driven type with automatic recording chart attached.

Tensile tests on yarns, threads, and fabrics by constant-stretch machines may be considered as a development within the twentieth century. The instruments or machines for making the tests have improved until they are quite competent for the usual tests, and are now provided with means for showing the stretch as well as the strength. Most of the heavier machines are now provided with means for automatically recording curves of the stress-strain relation for all loads to the breaking point.

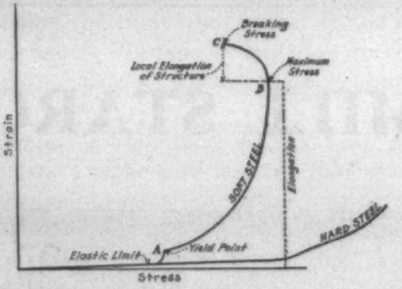

Fig. 4

The tests themselves are often very inadequate and made to show more than is warranted by reasonable interpretation of the results. European countries, for example, have used a tensile test on raw silk for several decades, but formerly limited the test to ten breaks at more or less random places on the same yarn, or to one break on each of ten yarns taken from different sample skeins. (One hundred breaks are recommended as a minimum in the United States.) An arithmetical average of the ten breaking strengths and of the ten elongations establishes the strength (tenacity) and stretch (elongation) of the raw silk under test. Every break is recorded, however, to show the regularity (evenness) in cross-section of the yarn as an indication of uniformity in covering power. The strength and elongation are what are determined and recorded, but the indication of variation in the diameter of the yarn is often, if not always, considered of quite as great value as the average strength.

The tensile tests applied to raw silk are typical of tensile tests applied to all yarns and woven fabrics in that they emphasize three main points: a constant rate of stretching throughout the test, the stretch to point of rupture, and the breaking strength.

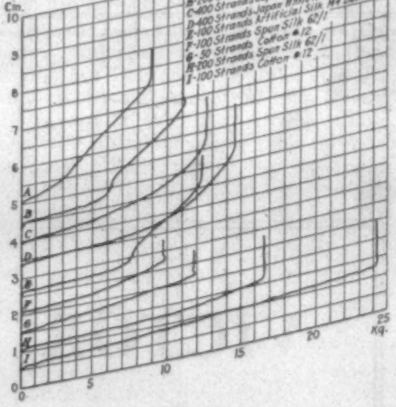

Fig 5

The inadequacy of ten breaks ultimately led to making more breaks, and to a machine for automatically recording the breaks—a type of machine known to all of us, which automatically makes and records the breaking strength of a considerable number of consecutive breaks at regular space intervals on from one to ten yarns, but which gives no indication of the stretch and does not give average strength, and is therefore an evenness tester rather than a tensile tester.

Recording Instruments.

Machines designed to show the breaking strength and stretch at rupture and which automatically record the stress-strain relation from the beginning to the end of the test have come into use within the last decade, especially in the case of machines having a breaking capacity of 50 pounds or more. The record appears in the form of a curve traced by a pen or produced by a series of dots made at regular intervals by electric sparks.

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*Contributed by the Textile Division and presented at the Annual Meeting of American Society of Mechanical Engineers.

A comparison of the characters of these yarn curves with curves from steel wires can be made by comparing the curves of Figs. 4 and 5. The curves for steel wire show three important points: the yield point, the breaking strength, and the stretch at point of maximum load; while the curves of Fig. 5 on yarns show only the latter two.

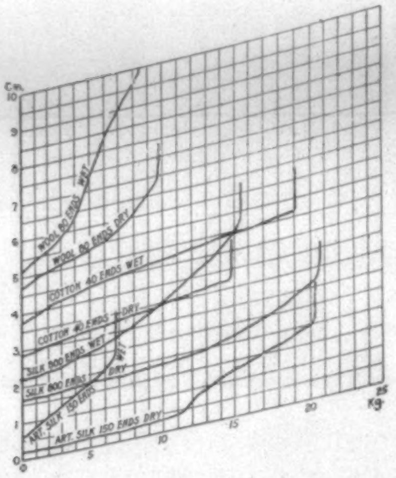

Fig. 6

The curves for the yarns show certain characteristics that are worthy of further attention. The curve H for spun silk has the characteristic shape of the spun yarns of which curves I and G for cotton yarns may be taken as typical. The spun yarns usually show small stretch, which is approximately proportional to the stretching load, as is the case of the steel wire up to the yield-point load (shown by Fig. 4).

The humps in curves B and E are not yield points in the ordinary sense but are change points in the rate of plastic flow, which rate is different on opposite sides of the hump. The hump on curve B is due to silk gum and does not occur if the gum is removed before testing, as shown by curve A which is made from the same skein of Tussah raw silk that was used for B, the only difference being that the gum, amounting to 9.5 per cent, was removed by weak soap solution in the usual way before the test was made. Curve E was characteristic of most rayon yarns three years ago, but it has almost disappeared in most of the present-day products, the change in rate of plastic flow being far less abrupt now. Curves D and C are for Japan raw silk before and after removal of sericin. The per cent of the gum removed is more than twice as great as for the Tussah silk of curve B, but it shows no sign of hump in the curve D.

Effect of Atmosphere.

The breaking strength and stretch to rupture are very much affected by the moisture content at the time of the test, and usually differently for yarns and fabrics made of different textile fibers. The strength may vary as much as 60 per cent between tests made on the same yarn or fabrics when dry and when wet. Figs. 6 and 7 will give a rough idea of these variations. These curves show stress-strain relations for yarns dry (in equilibrium with standard atmosphere) and wet (dipped in water at room temperature for a few seconds and tested while still wet). Fig. 6 shows curves for the same number of ends wet and dry, and Fig. 7 shows curves for the same number of ends wet and dry, and Fig. 7 shows curves with the number of ends wet and dry taken so as to give approximately the same ultimate strength. Note that there is no hump in the wet-rayon curve.

The comparison of tests made on the same yarn or fabric in different laboratories requires that the test samples have approximately the same moisture contents at the time of the test. This can be accomplished best by exposing the samples for a sufficient length of time in a standard atmosphere.

The production and maintenance of this standard atmosphere, at a reasonable cost in a room large enough to be used as a testing laboratory, against all changes of temperature and moisture content in the air outside, is the great field for improvement presenting itself to all interested in reliable and comparable tensile tests on textiles. Three ways have been proposed as substitutes for the testing room with constant standard atmosphere. One is that of making the test in a comparatively small chamber in which both the test samples and the testing instrument or machine are placed. The operator manipulates the samples and machine by suitable devices from the outside. This method has been worked out so as to be fairly competent for experimental purposes, but is not suited to laboratories making a large number of routine, tests, both on account of inconvenience and very large installation cost.

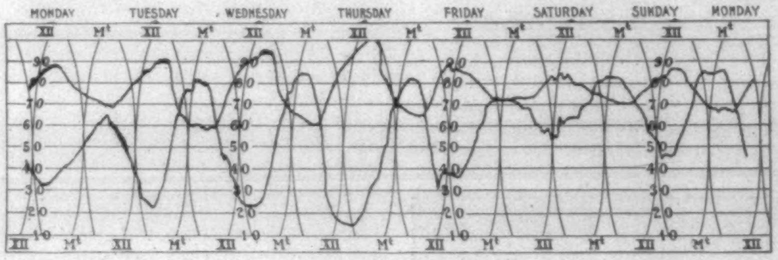

Fig. 8.
Temperature and Relative-Humidity Curves Taken in a Southern Mill During a Week in August, 1925.

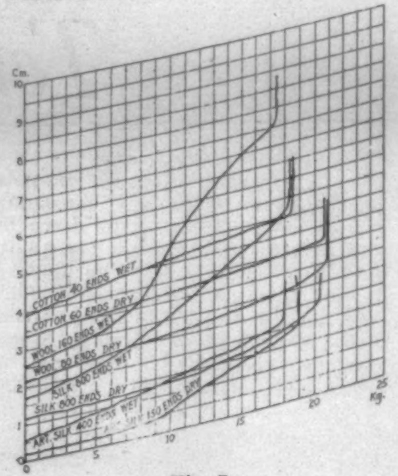

Fig. 7

A second is that of making the tests in any atmosphere and then drying the sample to determine its actual moisture content at the time of the test, from which, by an established correction formula, the strength of the sample in equilibrium with standard atmosphere can be computed.

A correction formula for cotton fabrics has been worked out and has

(Continued on Page 34)

VICTOR MILL STARCH — The Weaver's Friend

It boils thin, penetrates the warps and carries the weight into cloth. It means good running work, satisfied help and one hundred per cent production.

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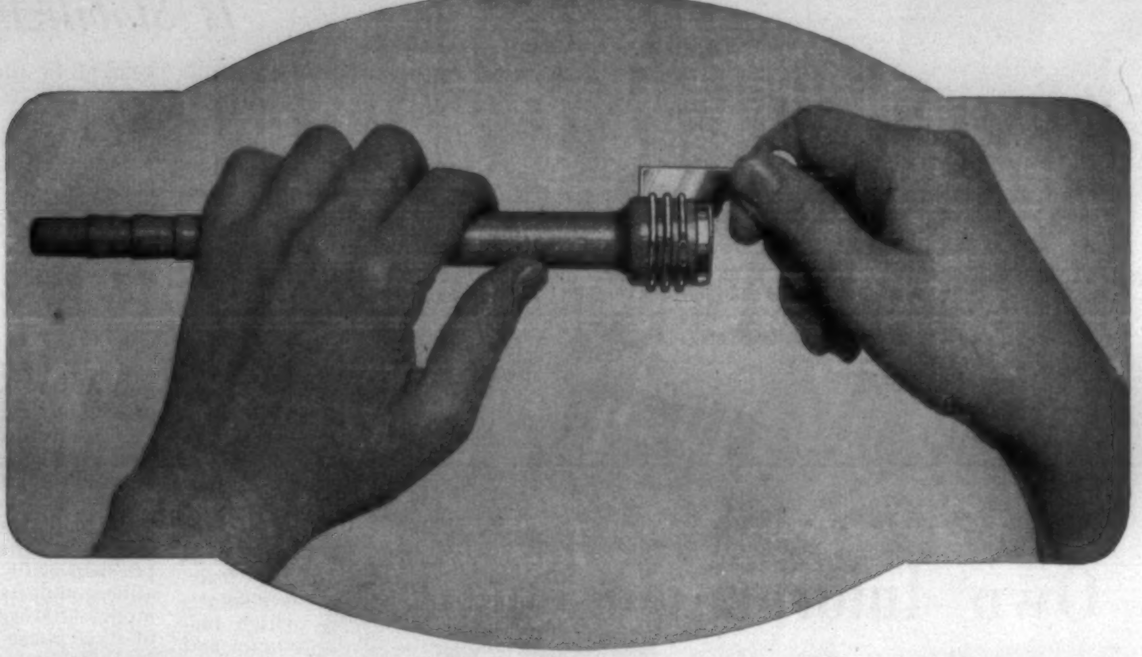

Standards are of No Value Unless Adhered to

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A LARGE percentage of the smashes on automatic looms are caused by improperly constructed bobbins.

Without accurately made bobbins, the automatic bobbin-changing loom must necessarily be a failure.

When these looms were first introduced, the U S Bobbin & Shuttle Company developed and perfected the automatic loom bobbin, and for seventeen years, the duration of the original patent, was the exclusive manufacturer.

Rings must be straight and not wavy so that spacing will be uniform. We gauge every ring to make sure they are straight. Rings must all be of just the right temper and spring so that they will not get loose or break. We temper our own in electric ovens, controlling the tempering process scientifically so that every ring is alike.

We are unique amongst bobbin makers, in that we "roll our own" rings from start to finish to make sure that faulty rings do not undo the painstaking care we use in selecting the stock and the operations of boring, reaming, shaping, sizing, and finishing automatic loom bobbins.

It takes four of our factories to produce the millions of better automatic loom bobbins called for every year.

Have you tried them? Place your order to-day. Write, phone, or wire our nearest office for service.

Butt and tip are gauged as accurately as the rings.

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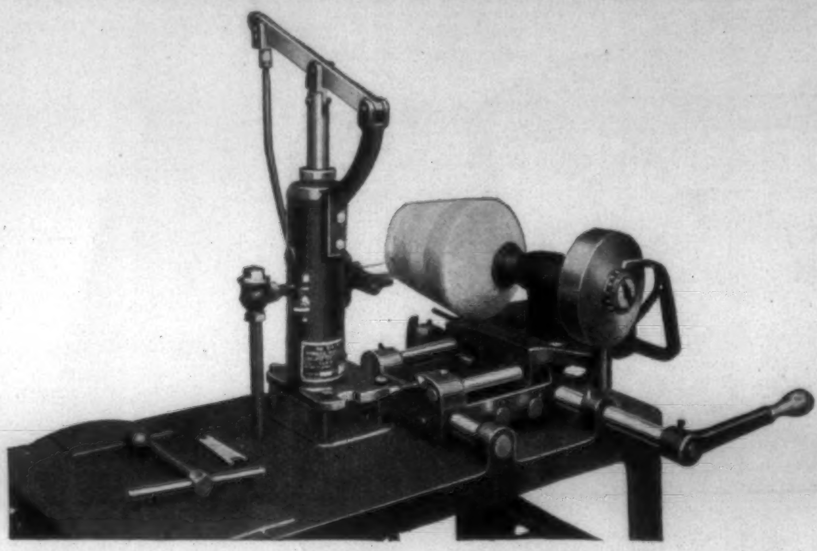
BUILDERS OF UNIFORMLY SUPERIOR BOBBINS, SPOOLS, AND SHUTTLES

For quicker service, write, wire, or telephone our Greenville Office, E. F. Fielder, Manager U S Greenville bobbins and spools are of the same high quality and standard as the products of our Eastern factories



For Your Own Information

Here Is Something Worth Reading

Why slow up your cards, or double card, make extra waste and lose production, when you can, by using the Eclipse Automatic Yarn Cleaner attached to your winder or spooler, produce cleaner yarn, free from slubs and weak spots. You will turn out a better product day in and day out with less effort and less worry. When you have wound your yarn through the Eclipse Automatic Yarn Cleaner then you have done your best, you have taken advantage of the latest invention in "Yarn Making" for quality.

The Eclipse Automatic Yarn Cleaner is not an experiment, its worth is a proven fact.

The yarn trade has begun to realize and appreciate just what the Eclipse Automatic Yarn Cleaner means. Many mills are using them and are continuing to send in orders for more (some telegraph while some use the telephone).

If you are sincere and really want to improve your product write and we will send you an Eclipse Yarn Cleaner on trial, also send one of our representatives to make proper installation no matter where you are located. In writing, please mention type of winder or spooler.

ECLIPSE

We can show you results that even a blind man can see

Eclipse Textile Devices, Inc.

Makers of the Eclipse Yarn Cleaner

Elmira, New York

ECLIPSE—VAN NESS

RANDOM DYEING MACHINE

Says Hand-to-Mouth Buying Is Stabilizing Influence

APPROVAL of the hand-to-mouth buying policy was recently expressed by Edward Freschl, president of the Holeproof Hosiery Company, in an address at a business conference held in Chicago by the Metropolitan Life Insurance Company. The conference was called to discuss the hand-to-mouth system and drew representatives from many industries. Mr. Freschl believes that the hand-to-mouth methods is stabilizing influence. His remarks are given below:

The practice of hand-to-mouth buying or "buying for immediate use" dates back to the year 1920, of course, being the year in which the post-war business depression commenced. It is almost unnecessary to explain that the practice of hand-to-mouth buying had its inception at that time as a result of the disastrous effects following over-speculation and over-buying, which had been indulged in by merchants and manufacturers as a result of the war boom.

Prior to 1920 and as far back as business recollection takes us, it was customary for merchants, both wholesale and retail, to buy their merchandise practically at stated periods of the year. It may be of some interest to trace back our own experience in this respect as it represents such an extreme reversal of conditions. Going back about 30 years, we were engaged in the manufacture of woolen gloves and hosiery, and sold our product exclusively to the wholesale trade. It was what is termed a "one season" business. In other words, the article was used only at one time of the and was bought by the jobber only year, namely, the winter months, once a year. Our salesmen went on the road in November and sold our entire year's output in three months. It was the practice then to buy our raw materials to cover these orders, namely, enough for a year's production. The goods would be manufactured and shipped to the jobber throughout the summer months and would be delivered by him to the retailer in the fall and winter months. I am citing this situation in passing, merely to show an extreme example of the change that has taken place in buying methods in a period of thirty years; and I think I am correct in saying that it is quite typical of the general trend.

Having found that merchandising a branded and nationally advertised product through the jobber did not prove to be a satisfactory method of distribution, it was decided to change out method of merchandising and sell direct to the retailer. At the same time other products were introduced by us so that we had an "all the year 'round" business. From that period on until the war boom started, it was customary for our salesmen to call on the retailer about twice a season spring and fall), or four times a year. In other words, the dealers' orders were at that time practically based on purchases for three months at a time. This method of buying was quite general in the textile industry, at least so far as houses were concerned that sold direct to the retail trade.

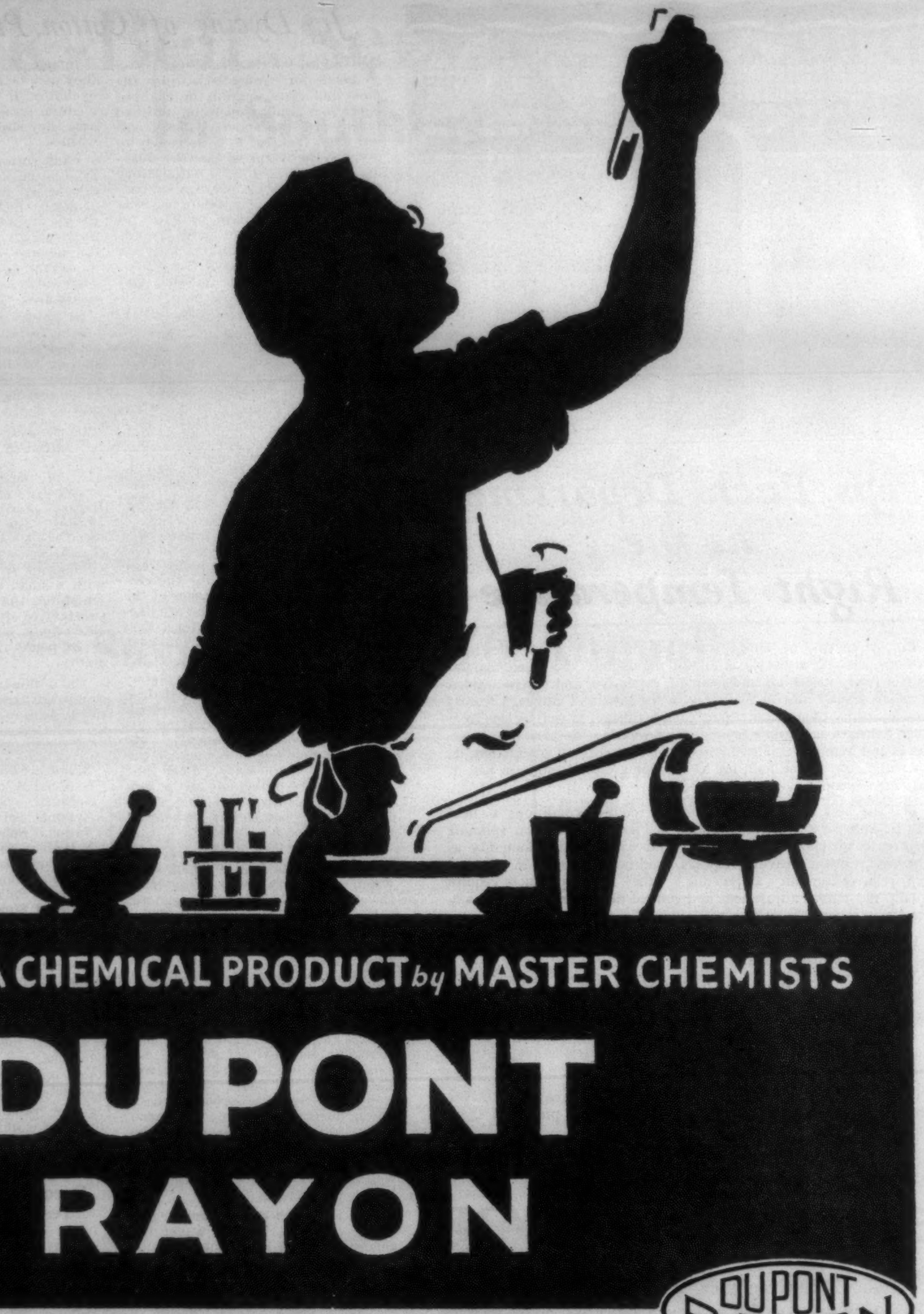
When the war boom started, the situation was, of course, wholly changed and revolutionized. Dealers became almost stampeded in their anxiety to get merchandise and they not only placed orders for all they could hope to get from one house, but duplicated their purchases as many times as possible with other sources of supply. This situation continued as before stated until 1920 at which time the custom of hand-to-mouth buying started.

It is interesting to state here that the problem of meeting the new situation might have been relatively simple, as it no doubt has been in many industries. But it so happened that at this particular time another problem came into existence, in fact, almost simultaneously with hand-to-mouth buying. I refer to the change-of-style phase of the situation. Prior to this time styles in hosiery had been very stable; in fact, I might almost say that there were no styles. Women wore long skirts and stockings were considered strictly as a covering for the legs and not at all from a standpoint of stylish wearing apparel. There were conventional colors and color combinations which were never departed from. It was as fundamental as the laws of the Medes and the Persians that black stockings should accompany black shoes, brown stockings would be worn with brown shoes; and white stockings with white shoes. Of course, only cotton and wool hose were worn at that time, and the wear of silk stockings was something to be looked upon with a frown.

A change took place; skirts were shortened and women became educated to the wear of silk stockings as a matter of daily occurrence. However, the color remained in effect. Suddenly, however, some women conceived a new idea. Somewhere or other, (I have never ascertained just where this took place) a leader in the world of fashion appared wearing black shoes and champagne colored stockings. The thing spread over the world like wildfire; and it was impossible for the manufacturer to meet the demand for champagne colored stockings. This style or color combination continued for a few months when some other lady conceived the idea of wearing gray shoes and gray stockings. As is usual in these things, the multitudes followed suit and women began beseiging the stores in an attempt to match gray stockings and gray shoes. This was only the beginning of a color craze in hosiery, and I am discussing it at some length because the situation as it later developed has a very distinct and important bearing on the subject we are discussing today, hand-to-mouth buying.

When the style for gray stockings came in, it was quite safe for the merchant to put in a stock of a number of shades of gray hosiery. It

(Continued on Page 14)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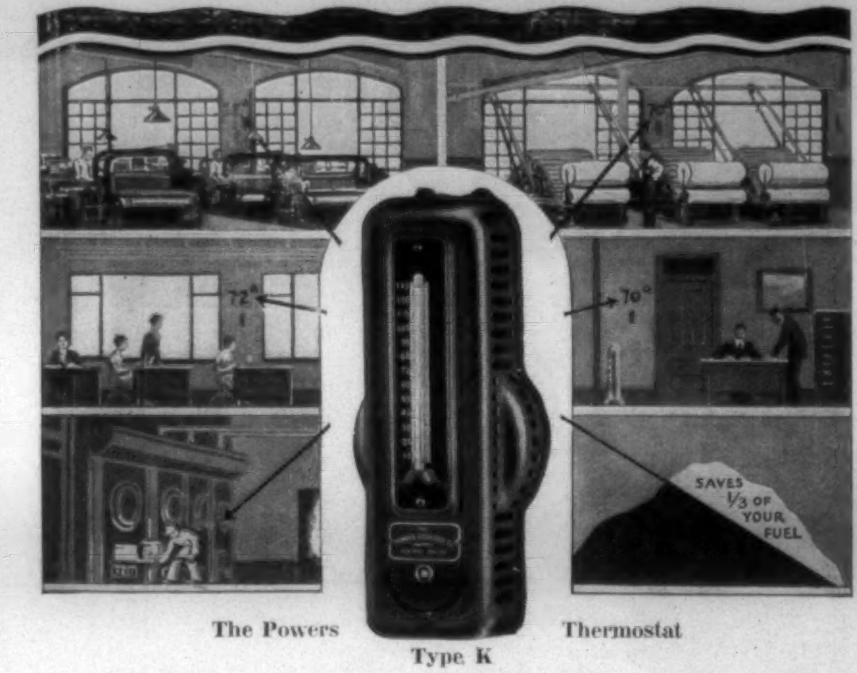

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Proper control of temperature and humidity in textile mills through personal attention is almost impossible. So-called manual control really means an unwarranted, expensive, and costly neglect. It means loss of time in fussing with windows and valves, a loss of time necessary to stop and repair yarn breakage, as well as loss from other damages in carding, spinning, or weaving in variable temperatures and humidity. These losses, or added costs of production, do not really stop in the mill, for an inferior product results in loss of customers' good will—and business.

For the best results, cotton carding requires conditions as near 70° F. and 50% relative humidity as possible. Cotton spinning requires conditions as near 80° F. and 65% relative humidity as possible. Cotton weaving requires conditions as near 75° F. and 75% relative humidity as possible. Other textile products require equally meticulous adjustment and control that is impossible in any other way except through proper automatic control.

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Jig Dyeing of Cotton Piece-Goods

THE preparation of cotton piece-goods for dyeing constitutes the most important stage in the chain of operations leading up to the finished fabric. In the earliest stage of cotton cloth making, it is necessary to prepare the warps so that the weaving may proceed in a satisfactory manner. This warp preparation consists essentially of applying a sizing so that the fibers will lie close together, imparting not only smoothness to the thread but also a certain degree of strength, says "Dyestuffs" the publication of the National Aniline & Chemical Co.

It is not the purpose of the writer to discuss warp sizing, but to direct attention to it on account of its importance in cloth manufacturing, and the necessity for its complete removal from the cloth before the latter can be properly dyed. Warp sizes as a rule consist chiefly of a starch base, compounded with other ingredients according to the ideas of the warp dresser. These ingredients are legion, and comprise such items as gums, dextrines, and fats (tallow), besides antiseptics.

It is therefore obvious that after the warps have been woven into the pieces, the dyeing is likely to be more or less imperfect for the reason that any remaining traces of the constituents of the dressing are likely to affect seriously the level dyeing properties of the dyes employed.

Proper preparation of the pieces may be effected in several ways; one and a very important one at that, is to subject the goods to a thorough boiling-out in the kier, making use of caustic soda if necessary, to ensure the complete loosening of the dressing from the warp. After this, the pieces are pulled out of the kier through a washing machine in order to remove completely whatever alkali the kier boss used.

Another way of handling grey cotton pieces is to subject them to a warm malting, a process involving the use of malt extract, the diastatic action of which has a resolving power on starches, and effects their conversion into soluble compounds which are easily removable from the treated pieces by subsequent washing. This malting process is about as follows: The goods are run through a solution of warm water (150° F.) containing about one pound of malt extract per ten gallons and are left standing in the wet state for several hours. This treatment gives rise to a sort of fermentation, during which time the starch is resolved, and at the same time the other constituents of the size are released. Afterwards the pieces are well washed and passd on to the dyehouse.

Kier boiling is carried out in different mills in various ways; the general practice is to employ about 50 pounds of caustic soda per 500 gallons of water, but this proportion may be varied according to the experience of the dyer. Pressure kiers are most commonly employed, and of a size sufficient to accomodate several hundred pounds of cloth.

After kier boiling, the goods may be bleached with chloride of lime if intended for bright shades, or else they may be at once passed on to the dyehouse if they are to be dyed medium or heavy shades. In either case they should be thoroughly well washed.

Many cotton fabrics are not to be dyed after kier boiling or desizing otherwise, but are prepared for printing. In this case, the goods are signed as usual for the purpose of removing all fly or loose fibres from the surface of the cloth; this is an important operation and should be done with care. After singeing, the goods are well bleached and dried.

In jig dyeing, the chief point to observe is that the two rollers are in perfect alignment, so that the tension on the pieces while being dyed is even; otherwise there is likly to be an uneven drag on the piece being unwound.

In choosing dyes for jig dyeing, it is important that they should be thoroughly soluble in warm water, and that the dissolved dye be added to the dye kettle in successive portions so as to ensure not only penetration of the body of the fabric but levelness of shade as well. In making use of direct dyes, it may be advantageous to prepare the dyebath with a small amount of soluble oil, which has the tendency to cause the substantive dyes to go on the fabrics evenly, besides aiding materially in penetrating the body of the cloth.

The following dyes of the direct group are recommended by the National Aniline and Chemical Co., for use when penetration and levelness of shade are desirable factors:

National Solantine Blue 4GL
National Solantine Blue 2GL
National Solantine Blue FF
National Solantine Pink 4BL
National Solantine Red 8BLN
National Solantine Violet R
National Solantine Orange G
National Solantine Black L
National Solantine Brown R
National Solantine Yellow 4GL

This group of dyes is remarkably fast to light. They possess excellent solubility, and exhaust well from the dyebath, dyeing level shades. They are practically unaffected by either copper or monel metal, and consequently may be freely employed in most modern types of dyeing machines.

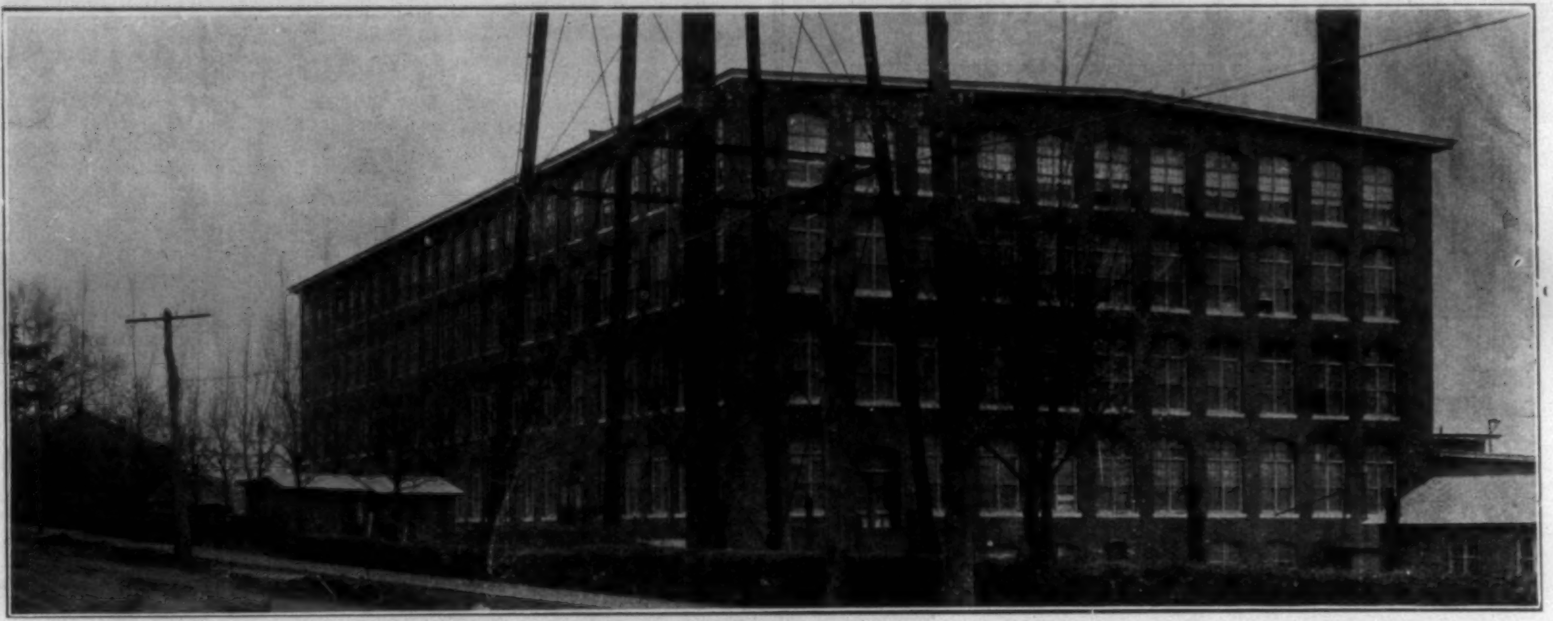
The dyes of the Solantine Group may be freely used in combinations for the production of compound shades of exquisite brightness.

U. S. Testing Co. Reports Record Total of Textile Tests Made Druing 1926

The United States Testing Company, Inc., of Hoboken, N. J., reports a total of 123,289 textile tests during 1926, the highest figure in its records, which go back to 1908. Conditioning tests for the year totaled 58,449, a decline from the 1925 total of 62,163, but this loss was offset in various other tests which totaled 64,840 as compared with 60,824 for 1925.

Link-Belt Service Records

In Southern Mills



Easley Cotton Mill, Easley, S.C. J. E. Sirrine & Co., Engineers.

Saving $3,722.76 Annually

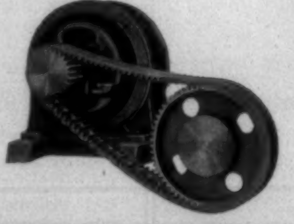
ABOUT 8 years ago the Easley Cotton Mills, Easley, S. C., equipped 171 spinning frames with Link-Belt Silent Chain Drives.

To quote Mr. J. M. Cannon, Supt., "Formerly we drove the frames from overhead steam driven shafting. With 342 strips of belting running between the ceiling and the floor, light was obstructed and efficiency hampered. Link-Belt Silent Chain Drives have eliminated this condition.

"We find that the **steady pull** of the Link-Belt Silent Chain cuts the breakage of the cylinder gears in half and increases production. A still larger saving in production is due to elimination of delays caused by the breaking of belts.

Textile Machines Driven with Link-Belt Silent Chain:

Cards
Drawing Frames
Roving Frames
Slubbers
Intermediates
Sliver Lappers
Ribbon Lappers
Combers
Ring Spinning Frames
Twisters
Mules
Spoolers
Winders
Looms
Mercerizing Machines
Dyeing Machines
Printing Machines
Tenter Frames
Calenders
Line Shafts



"The largest saving is effected by the elimination of all slippage. The Link-Belt Silent Chain is positive, and slip is impossible. With ordinary belting, in spite of the greatest diligence an average slip of at least 3% is bound to occur.

"With 171 frames a 3% slip loses the production of 5.13 frames. Since the total operating expense would be about $716.26 per year per frame, the Link-Belt drives are saving $3,674.41 annually. When this is added to the saving in illumination expense, we have a total of $3,722.76 per year, which comes very close to repaying the entire cost of the complete drives."

Have one of our experienced engineers near you explain to you the merits of this drive. Send for a copy of our Silent Chain Textile Book No. 625.

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MACHINERY

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BUCKLEY OPENERS
COTTON CONVEYING SYSTEMS
FEEDERS
SELF FEEDING OPENERS
INTERMEDIATE and FINISHER
LAPPERS
REVOLVING FLAT CARDS
DRAWING FRAMES
(Mechanical or Electric Stop Motion)
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ROVING FRAMES
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Says Hand-to-South Buying Is Stabilizing Influence

(Continued from Page 10)

was quite likely that he would be able to move these goods with little difficulty, especially inasmuch as he did not foresee that over night there would be another radical change. And that also came to pass; for suddenly from gray stockings, the ladies the world over changed to flesh colored, or what is known as nude shades of hosiery.

This was the beginning of chaos. It was discovered by fashion designers and manufacturers of dye stuffs that they could designate as many different shades in flesh colors as there are colors in the rainbow. This, of course, brought about a situation which made it almost impossible for a merchant to place orders for any appreciable period in advance of his actual needs. Therefore he most naturally resorted, not only to hand-to-mouth buying as it is usually thought of, but to hand-to-mouth buying to the n-th degree. Where it was formerly the custom for even the relatively small dealer to place orders for what we call "case lots," today the biggest department stores with the largest hosiery departments hesitate to buy more than a few dozen at a time of various colors in women's hosiery. In addition to this, it is necessary for the manufacturer ,in order to meet the competitive situation, to offer to take back from the dealer such shades as he does not find suitable for his trade and replace them with other shades.

This description of the situation it not given in a spirit of criticism of the retail merchant. We as manufacturers can only sympathize with him in appreciation of his position. We feel that the situation is one that calls for the utmost effort to cooperate and make it possible for the merchants to continue his hosiery business on a profitable basis.

In our particular business it so happened that we were confronted at the same time with this radical change in buying methods, namely from future-buying to hand-to-mouth buying, and a revolutionary style change; but in addition we had to meet a similar situation in connection with the manufacture of men's hosiery and children's hosiery. For many years the style in men's hosiery called for what we call "plain colors." This entailed the manufacture of only some eight or ten colors; in the past few years, however, the style in men's hosiery changed to the use of what we call "fancy designs" or "novelties," which, of course, involved the production of a great many more numbers in order to meet the popular demand.

The same thing is true with regard to children's stockings, which we also manufacture. A few years ago, just as women wore only black, brown, and white stockings, children wore the ordinary long, cotton stocking, principally in black, but a few brown and white. It was necessary to make more than three or four different numbers of so staple a commodity. However, at about the same time that the styles began to change in women's and men's hosiery, a corresponding style change took place in children's hosiery. The ordinary or garden variety of long stockings was discarded and children began wearing what we call three-quarter and seven-eighth length stockings with fancy tops and fancy designs, which change again brought about the necessity of the manufacture of a very extensive line.

In order to give a general picture of what these changes in styles in men's women's and children's hosiery entailed so far as manufacturing and carrying of stock is involved, I will say that we made and carried in 1920 some 480 items in the three classifications, whereas at the present time we manufacture and carry in stock 6006 items. If you will stop to think that this upheaval and change took place at practically identically the same time that merchants went from advance-buying to hand-to-mouth buying, you may in a measure understand the serious problems and difficulties that it has been and still is necessary to meet.

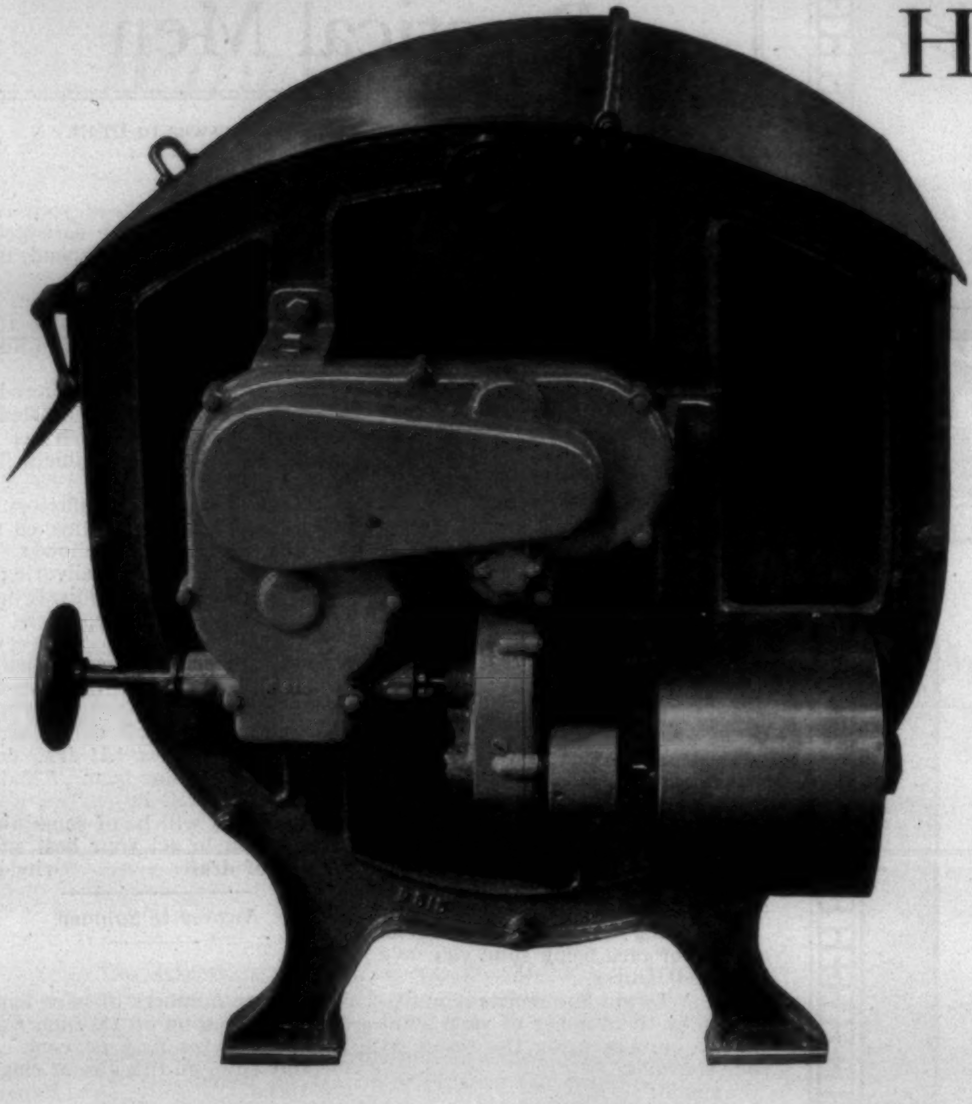
In the following the hand-to-mouth buying policy, merchants naturally buy as abstemiously and as frequently as possible; but on the other hand, in order for them to meet competition, they must have comprehensive stocks of merchandise and therefore require prompt and efficient deliveries and service. This means that full and complete stocks of finished merchandise have to be carried by the manufacturer; and in our particular business we have found it necessary in addition, to carry branch stocks in warehouses in six different localities in various parts of the country. That, of course, multiplies our difficulty by just so many times, as prompt deliveries are required from each one of these branches. To give a picture of the increase in stocks of finished goods that these changes have brought about, I might state in passing that in 1920 our inventory of finished production was 220,000 dozen, while we carry at the present time 480,000 dozen at our home plant and branch warehouses, or an increase of 118 per cent; our increase in volume of sales by units has only increased in the same period 55 per cent.

Another point that might be interesting to consider is that of office detail and shipping; under this term I include such things as credit control, making out orders, shipping merchandise, billing and collections. To cite an extreme example, I will assume for instance that, under the old custom of buying, a merchant has placed an order for a case of goods consisting of, say, 60 dozen, to be delivered at a certain future date and representing about one-fourth of the purchases he might make throughout the year. This would mean that one credit reference would have to be made, one order would have to be made out, one shipment made intact, and one bill sent.

Under the present system of buying for immediate needs, this transaction, without any exaggeration might have to be multiplied by 11.

(Continued on Page 31)

What people say about the NEW KLAUDER-WELDON HOSIERY Dyer



Drive end view of 5 and 10 pound machine
Mechanical reverse drive

"Easy to Load and Unload"

"Due to the design, we find it to be the easiest machine to load and unload of any hosiery dyeing machine that we have in our dye house."

From a letter by a concern who installed the new Klauder-Weldon Dyeing Machines.

We have a folder showing all details of Klauder-Weldon Hosiery Dyers. Your copy is ready to mail *now*.

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See the last word in Hosiery Dyeing Machinery at the Knitting Arts Exhibit, Phila., Pa.—April 4-8—Spaces 308-9-10-45-46-47.

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H.P.C.
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A wonder product!

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Practical Discussions
By
Practical Men

To Find Lay Constant.

Editor:

Will some one give me a rule to figure the lay constant on a spinning frame? Carolina.

Heavy and Light Carding.

Editor:

What is meant by heavy and light carding. That is, at what weight of the card sliver would it be called heavy—what is the dividing line?

Dunno.

Mildewed Goods.

Editor:

We have some goods that are mildewed and would like to know if there is any way of restoring them to anything like their original condition.

Wishing to thank you for an early reply. We remain, K. B.

Some Short Cuts.

Editor:

A mill making 30-2 chain warp figures the weight of the warp thus:

ends yds. hk. No. ply yarn
1200×1000÷840÷15=95.24 lbs.

By getting the constant for the number of yarn being spun you save time and figures.

Rule: To get the constant multiply 840 by the number of yarn point off two ciphers using the result as your constant.

Eaxmple:

840×15=12600. use 126. constant.
ends yds. const.
1200×1000÷126=9524 lbs.

This rule will apply to any beam, chain or ball warp when you know the ends, yards and counts.

Old Top.

Answer to Draft.

Editor:

In reply to "Draft" in regard to satisfactory drafts on roving frames. He didn't give the number of his finished roving, but ordinarily, a draft of (4) on slubbers, (5) on intermediates and (6) on speeders is a good draft. P. A. W. (Ga.)

Answer to Draft.

Editor:

Considering Draft's question on drafts beginning at slubbers, would say that on average work the drafts should be within the following limits:

Slubbers 4 to 5; 1st intermediates 4¼ to 5¼; 2nd intermediates 4½ to 5½; jacks 5½ to 6½.

Fine Work.

Answer to Draft.

Editor:

Replying to "Draft" of your issue of March 3, 1927. The satisfactory draft of roving frames, depends upon several important things.

1. Grade and staple of cotton.
2. Condition of rollers, as these must firmly grip the stock to insure smooth drafting.
3. Hank roving to be delivered, as heavy stock cannot be drafted as much as light, inasmuch as the weight does not hold all fibers firmly.

I have had very satisfactory results, making 4.76 h. r. finished roving with the drafts as follows:

Slubbers, 4.05 draft delivering .58 H. R.; intermediates, 5.62 draft delivering, 1.68 H. R.; fine speeders, 6.40 draft delivering 4,76.

I am making a finished roving 2.73 hank that is giving good results, which is as follows:

Slubbers, 4.06 draft delivering .50 H. R.; intermediates, 4.11 draft delivering 1.03 H. R.; fine frame, 5.35 draft delivering 2.73 H. R.

I hope this will be of some aid in helping you to get your best suited lay-out of draft. Grinder.

Answer to Spinner.

Editor:

How fine numbers of yarn can be comfortably spun on 1¾-inch rings? Yarns of to 24s may be very comfortably spun on this size of rings at top speed. Expert.

Answer to Central.

Editor:

Can operatives operate more than two frames of roving on fine work, jacks, etc., as asked by Central. Operatives can very comfortably operate 3 to 4 fine roving frames, and it is being done very satisfactorily in some mills both North and South. General.

Answer to Mill.

Editor:

Would it pay to increase the pitch of the top roll stands. I am not capable of stating whether it would pay or not. The chances are that it would, because better results can be secured by increasing the pitch. If 35 degree roll stands were substituted for the 25 degree ones in use, and then to raise the spinning frames higher off of the floor so that the spinners can see nearer to the bite of the roll and enable them to piece up better. No doubt better results would follow.

Improvements.

(Continued on Page 29)

WIDESPREAD USE PROVES MERIT

There is no other way to account for the constantly increasing use in leading Textile mills throughout the country of

TRADE MARK REGISTERED IN
NON-FLUID OIL
UNITED STATES PATENT OFFICE

The Specialty Lubricant of the Textile Industry used in most of the leading mills of the country.

QUALITY

The exceptional Lubricating Quality of NON-FLUID OIL is due, first, to its being a pure mineral oil of naturally high lubricating value—

And second, to its extreme adhesiveness—our exclusive process—which insures its staying at the exact points where protection against friction is needed, reducing power loss, wear and tear and repair bills.

And dependable—unremitting PERFORMANCE follows where NON-FLUID OIL is employed—convincing proof of its SUPERIORITY, which has won universal recognition where liquid oils, or greases, have failed.

ECONOMY

The Economy of NON-FLUID OIL is twofold and real. First: NON-FLUID OIL "stays put" and does not drip, spatter or creep onto goods in process. Here is a real saving through reduction of oil spots which lessen the value of the product.

Second: NON-FLUID OIL saves in the cost of lubrication—it does not waste—lasts several times as long as liquid oil, hence much less lubricant is used per year at less cost for lubrication.

Most of the Leading Southern Mills use NON-FLUID OIL, but if you have not tried it we will gladly send testing sample and bulletin, "Lubrication of Textile Machinery."

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Please send bulletin, "Lubrication of Textile Machinery," and samples of NON-FLUID OIL for purposes checked below:—

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☐ CARDS
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☐ TWISTER RINGS
☐ BALL BEARINGS
☐ SHAFTING
☐ MOTORS
☐ CHAIN DRIVES

NAME ____________________

MILL NAME ____________________

ADDRESS ____________________

S. T. B.—3-10-27.

Southern Mill Men Confer With Hines

PLANS for the work to be undertaken by the Cotton-Textile Institute to bring about stable and more satisfactory conditions in the textile industry were outlined this week in a series of conferences between Walker D. Hines, president of the Institute and Southern cotton manufacturers. The conferences were held at Greensboro, Charlotte, Spartanburg, Greenville and Atlanta. A large number of mill men heard Mr. Hines with much interest and joined with him discussing various phases of the textile situation.

Mr. Hines outlined the several phases of the Institute's work that already designated as being among the most important activities it will attempt. He spoke particularly of the need of complete cooperation among the members of the Institute and stressed the importance of collection and distribution of statistics that will aid in the more orderly production and marketing of cotton products. He also explained the plan of the Institute to increase cotton goods consumption through finding new uses for cotton goods and the necessity of a more uniform cost accounting system.

At each conference, following Mr. Hines remarks, the meeting was thrown open for general discussion and a number of prominent manufacturers took part in discussing the Institute work.

The Greensboro Meeting.

The first conference was held at the King Cotton Hotel, Greensboro, on Monday, with H. R. Fitzgerald, treasurer of the Dan River and Riverside Mills, Danville, Va., presiding.

The meeting was entirely informal in character and was attended by more than 50 mill executives. Mr. Hines, in opening the conference, explained the program of activities which the Institute is undertaking.

One feature of the program will be to gather more capable information about the industry, its annual production and stocks on hand. This will take on the character of a survey upon which the institute may base its future course.

Another outstanding feature of the institute's work will be a program to extend the uses for cotton goods, and utilization of waste products of the cotton industry.

A third important feature stressed by the institute head will be the projection of a uniform cost accounting method for various groups of the cotton manufacturing industry. This will entail a uniform system of determining the cost of production for various types of cotton cloth, wide sheeting and narrow sheeting included.

Following Mr. Hines' presentation of the cotton Institute's program for putting the industry back on its feet in a well studied and systematic manner, the meeting was thrown open for free discussion, Mr. Hines inviting the manufacturers to present their problems openly.

Among those who took part in the discussion were W. A. Erwin, of the Erwin Mills, Durham; Julius Cone, of the Proximity Manufacturing Company, Greensboro, prominent local manufacturer, and J. E. Latham, well known cotton man of Greensboro.

Attendance at Greensoro.

Thos attending the meeting in Greensboro included Russel Gant, Neuse Mfg. Co., Neuse, N. C.; J. H. Haddock, Erwin Mills, Durham; W. L. Ward, Leward Mills, Worthville; W. .E Trickett, Pennsylvania Yarn Mills, Central Falls; R. Lee Mahaley, Diamond Cotton Mills, Salisbury; C. P. Wall, Marshall Field Corp., Leaksville; L. W. Clark, Carolina Cotton and Woolen Mills, Spray; James Lee Love, Southern Dyeing Co., and Burlington Mills, Inc., Burlington; J. Harvey White, Travora Mfg. Co., Graham; R. L. Cumnock, Altavista Cotton Mills, Altavista, Va.; K. P. Lewis, Erwin Mills, West Durham; T. N. Webb, Belle Vue Mills, Hillsboro; J. R. Young, Minneola Mfg. Co., Gibsonville, N. C.; J. C. Webb, Eno Mills, Hillsboro; M. W. Montcastle, Dacotah Mills, Lexington; L. H. Sellars, Dacotah Mills, Lexington; C. A. Hunt, Jr., Dacotah Mills, Lexington; Julian Price, Dacotah Mills, Lexington; Allen Erwin Gant, Glen Raven Cotton Mills, Glen Raven; J. D. Elliott; Dudley Shoals Mills, Dudley Shoals; C. H. Reid, Washington Mills, Fries, Va.; A. H. Bahnson, Washington Mills, Fries, Va.

John W. Clark, Randolph Mills, Franklinville; J. Harper Erwin, Durham Cotton Mfg. Co., Durham; Eugene Holt, Aurora Mills, Burlington; S. J. Hinsdale, Burlington, C. W. Cloniger, G. W. Hundley, Durham; Herman Cone, Proximitey Mfg. Co., Greensboro; Oscar Berman, Crown Overall Co., Cincinnitti, O.; Roger Gant, Glen Raven Mills, Glen Raven; Julius W. Cone, Proximity Mfg. Co., Greensboro; J. M. Gamewell, Erlanger Mills, Lexington; Kenneth Gant; Raleigh Cotton Mills, Raleigh; Wm. E. Gately, Cotton Textile Institute, W. S. Erwin, Jr., Erwin Mills, West Durham; J. E. Latham, cotton factor, Greensboro, W. A. Erwin, Erwin Mills, West Durham; H. R. Fitzgerald, Riverside and Dan River Mills, Danville, Va.; David Clark, Southern Textile Bulletin, Charlotte.

The Charlotte Meeting.

About two hundred manufacturers met with Mr. Hines at a luncheon at the Chamber of Commerce on Tuesday. The meeting was in charge of Stuart W. Cramer, vice-president of the Cotton-Textile Institute and B. B. Gossett, member from this section of the board of directors of the Institute.

The procedure at the meeting followed the same general plan as the previous conference at Greensboro. Mr. Hines outlined the immediate plans of the Institute, pointed out some of the work that it expects to get into later and stressed the opportunity that the Institute can bring the textile industry if it receives the full support and cooperation of membership.

The developments at this conference revealed several important facts. The first was that the general plan of the Institute's program is laid down along lines that are practical and workable and that its opportunity for service is exceedingly bright. Second, that the manufacturers present showed hearty approval of the selection of Mr. Hines as president of the Institute. Third, that Southern manufacturers, realizing the trying conditions under which the industry has operated in recent years, are fully aware of the necessity of a combined effort to put their business on a firmer and more stabilized basis. Fourth, that the mill executives frankly admit that two of their greatest problems have arisen because of their lack of information that would guide them in keeping production within the limits of consumption and that merchandizing policies have been adversely effected by a multiplicity of selling methods.

Full assurance of support for the Institute work was pledged Mr. Hines and the interest shown in the meeting is regarded as very strong proof of the fact that the Southern membership of the Institute is prepared to cooperate fully in making the service of the Institute to the mills as valuable as possible.

Mr. Cramer, as vice-president of the Institute, called the meeting to order. He expressed gratification at large attendance, and the great interest being shown in the Institute. After a few brief remarks concerning the purpose of the Institute, Mr. Cramer turned the meeting over to Mr. Gossett, who represents this immediate section of the board of directors.. After briefly outlining the purposes of the Institute, Mr. Gossett introduced Mr. Hines.

After expressing his appreciation of the interest that the Southern mill executives are showing in the Institute, Mr. Hines briefly and clearly outlined the work that the Institute hopes to accomplish. He made it plain that his trip South was for the purpose of becoming acquainted with the mill owners and their problems and of getting their advice and ideas in the conduct of his office. He showed clearly that the success of the Textile Institute will depend upon the support and cooperation of the members and urged that the manufacturers lend their heartiest support in making the work of real benefit.

The textile industry is generally agreed, Mr. Hines stated, that is as far as the physical operations of its plants is concerned, conditions are generally satisfactory. This is true, Mr. Hines stated, because mill owners, as individuals, can successfully work out problems affecting their physical operations. The real difficulty faced by the mills is in their merchandising problems, he said. As individuals, they must distribute their products in a market that is affected by the actions of a large number of other individuals over whose actions they have no control and only a limited knowledge. Cooperation in marketing methods is therefore seen as essential to profitable operation of the mills, because under present conditions no manufacturer has any control over the various influences that affect marketing.

Mr. Hines then outlined some of the plans that the Institute is now working upon to bring about more stabilized conditions. The first of these is the collection and dissemination of statistics covering such information as production, sales, stocks and consuming power of the market. In connection with this work, he cited the statistical work now being done by the Cotton Textile Merchants Association of New York. As this body is already functioning in a satisfactory manner in collecting data on the various types of goods represented by its membership, the Textile Institute will not attempt to displace their work. The Institute, will however, enlarge on this work and extend it to cover such goods that are not being reported upon by the association and to cover yarns as well as goods. The first step in this direction Mr. Hines stated, was in the formation of the wide sheeting group of the Textile Institute in New York last week and the next step will be the organization of the narrow sheeting group in Atlanta on Saturday. These groups will build up a statistical service similar to that of the Cotton Textile Merchants Association.

Another phase of the work now under way by the Institute is a study of ways and means to increase cotton goods consumption by finding new uses for cotton products. Mr. Hines explained that the aid of two government bureaus has been enlisted in this direction and that the Institute would make a constant effort to broaden the uses of cotton goods. He stated that the institute would welcome suggestions from all manufacturers who might suggest new uses for cotton, and that all such suggestions would be seriously followed up by the Institute.

The Textile Institute is ready to promote any effort that may lead to standardization and simplification in textile production, Mr. Hines said. At present, where so many constructions of yarns and cloths are being made, manufacturing costs are often necessarily high and might be lowered through standardization and elimination of some constructions. This work has been very successfully carried through in other industries, he said.

The need of a more uniform cost accounting system by cotton mills was touched upon by Mr. Hines, who stated that the Institute is planning to aid the mills in this respect. Two plans have been suggested for this work. One is that groups of mills making the same class of goods, work out a standard cost accounting system to be applied to their group. The second is that cost accountants employed by the Institute, work with individual mills in arriving at cost accounting methods. The latter plan is more favored than the former he stated. Mr. Hines emphasized the fact that in any study of cost accounting or in reporting statistics furnished the Institute that such information would be entirely confidential and known only to the Institute staff.

In concluding his remarks Mr. Hines stated that while the Institute was organized entirely for the benefit of the mills and that its membership was purely a mill membership, the organization would cooperate with all other interests allied with the textile industry.

Mr. Hines was particularly interested in helping the yarn mills solve their problems and showed a very clear understanding of the difficulties of the mills that make market yarns. He urged that the carded and combed yarn spinners organize into groups and that send a committee to confer with him as soon as is practicable.

The work of the Institute must necessarily be conducted under the group system because of the large number of mills and the tremendous variety of their production. Manufacturers making similar products will be organized into groups so that their common problems may be met by cooperation of engaged in similar production, Mr. Hines explained.

At the conclusion of the talk by Mr. Hines, Mr. Gosett called upon a number of mill men to express their ideas as to the Institute work. All of the speakers were unanimous in peldging their support to the work and in pointing out that mills must cooperate in order to return to a profitable basis.

A. M. Fairley, president of the Southern Yarn Spinners Association pointed out that statistics covering production, sales, costs would be of immense benefit in helping the mills. Yarn spinners are now seriously handicapped by the number of selling methods they employ and the industry needs more intelligent merchandizing more than any other one thing he stated.

Arthur M. Dixon, president of the Gaston County Textile Association stated that the statistical service of that organization was proving of real benefit in enabling spinners to meet varying market conditions. He is convinced that the plan, applied to the whole industry, will mean a great deal to all of the mills.

Grady Rankin, of Gastonia, J. H. Separk, of Gastonia, R. L. Stowe, of Belmont, C. E. Hutchinson, of Mount Holly, Alex Long, of Rock Hill, Robert Lassiter, of Charlotte, J. A. Moore, of Roanoke Rapids, and W. B. Moore, of York, spoke briefly of the opportunity that the mills now have through the Textile Institute to bring about more stabilized textile conditions. All of them voiced the belief that Southern mills are now ready to work together to this end. They also expressed confidence in Mr. Hines ability to direct the work of the Institute and their approval of his selection as president.

After the general meeting adjourned, a number of carded yarn spinners met with Mr. Hines to consider plans for forming the carded yarn group of the Institute. It is expected that this group will be organized in the near future.

Those Present at Charlotte.

Among those who attended the meeting at Charlotte were:

H. A. Ligon, Pres. and Treasurer, Arcadia Mills, Spartanburg, S. C.; J. A. Law, Pres. and Treas, Saxon and Chesnee Mills, Spartanburg, S. C.; Fred W. Blanton, Secy. and Treas., Columbus Cotton Mills, Columbus, N. C.; W. A. Gately, Cotton Textile Institute; J. M. Gregg, Sec. and Treas,. Southern Textile Association, Charlotte, N. C.; F. G. Cobb, Vice-Pres. and Gen. Mgr., Lancaster Cotton Mill, Lancaster, S. C.; A. L. Stowe, Sec. and Treas. National Yarn Mill, Belmont, N. C.; W. H. Suttenfield, Sec. and Treas. Superior Yarn Mill, Belmont, N. C.; Gov. Cameron Morrison, Lawyer, Charlotte, N. C.; John Tillett, Treas., Clover Mills Co., Clover, S. C.; D. C. Mauney, Sec. and Treas., Sadie Cotton Mills, Kings Mountain, N. C.; R. I. Dalton, Sou. Agent, Whitin Machine Works, Charlotte, N. C.; Thorne Clark, Treas., Anderson Mills, Lincolnton, N. C.; R. S. Reinhardt, Jr., Pres., Elm Grove Cotton Mills, Lincolnton, N. C.; D. H. Mauney, Sec. and Treas., Long Shoals Cotton Mills, Long Shoals, N. C.; Webb Durham, Supt., Long Shoals Cotton Mills, Long Shoals, N. C.

W. S. Dilling, V.-Pres., Dilling Cotton Mills, Kings Mountain, N. C.; A. B. Hutton, Pres., Hickory Spinning Co., Hickory, N. C.; H. J. Holbrook, Treas., Hickory Spinning Co., Hickory, N. C.; J. H. Separk, Treas., Grey-Separk Mill, Gastonia, N. C.; Fred M. Allen, Sec. and Treas., Gaston County Cotton Mfgrs. Assn., Gastonia, N. C.; A. M. Smyre, V.-Pres., A. M. Smyre Mfg. Co., Gastonia, N. C.; Fred L. Smyre, Sec and Treas., A. M. Smyre Mfg. Co., Gastonia, N. C.; S. A. Robinson, Treas., Priscilla Spinning Co., Gastonia, N. C.; J. A. Moore, Pres., Patterson Mills Co., Roanoke Rapids, N. C.; J. Walter Williamson, Sec. and Treas., Bellwill Cotton Mills, Wilmington, N. C.; William H. Porcher, Sou. Agent, Whitin Machine Works, Charlotte, N. C.; Hunter Marshall, Jr., Sec. and Treas., Cotton Mfgrs. Assn. of N. C., Charlotte, N. C.; C. Singleton Green, Sec. and Treas., Yarn Spinners Assn., Charlotte, N. C.; J. L. Bush, Sec., Myers Mill, Gastonia, N. C.; S. P. Stowe, Sec. and Treas., Belmont, N. C.; M. H. Wolff, Charlotte Observer, Charlotte, N. C.; William B. Hodge, Vi-Pres., Parks-Cramer Co., Charlotte, N. C.

J. R. Dover, Jr., Supt., Dover Mill, Shelby, N. C.; W. W. Moore, Manager, Allis-Chalmers Mfg. Co., Charlotte, N. C.; E. A. Hamrick, Sec. and Treas., Ora Mills Co., Shelby, N. C.; D. S. Walker, Asst. Sec., Rhodhiss Mills Co., Rhodhiss, N. C.; E. O. Fitzsimmons, Treas., Icemorlee Cotton Mills, Monroe, N. C.; R. C. Moore, Pres., Rhodhiss Mills Co., Rhodhiss, N. C.; J. W. Stowe, Sec. and Treas., Eagle Yarn Mills, Belmont, N. C.; H. A. Rhyne, Sec. and Treas., Belmont Fabric Co., Belmont, N. C.; Frost Torrence, Pres., Ozark Mills, Gastonia, N. C.; R. G. Rankins, Pres. and Treas., Pinkney Mills, Gastonia, N. C.; K. Dixon, Asst. Treas., Dixon Mills, Gastonia, N. C.; George E. Marvin, Sec., Osceola Mills, Gastonia, N. C.; J. T. Armstrong, Sales Engineer, Charlotte, N. C.; A. S. Bedell, J. E. Sirrine & Co., Greenville, S. C.; F. R. Morgan, Sec. and Treas., Eastside Mfg. Co., Shelby, N. C.; J. B. Lattimore, V.-Pres., Alexander Mfg. Co., Forest City, N. C.; W. B. Moore, Pres., Neely Mfg. Co., York, S. C.; J. M. Butler, Pres., St. Paul's Cotton Mills, St. Pauls, N. C.

W. R. Armstrong, Armstrong Mill

(Continued on Page 26)

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Arkwrights Report on Textile Tests

A summary of two tests recently completed by members of The Arkwrights, the textile research organization, are given below. Both are of unusual interest and bring out a great deal of worthwhile and practical information. Due to lack of space, these tests cannot be published in full, but the summaries show clearly the nature of the work done and the conclusions arrived at after the completion of the tests.

SUMMARY OF TEST NUMBER FIVE

Prepared and submitted by
Stanley A. Black, Night Superintendent, Mill No. 3
The Lancaster Cotton Mills, Lancaster, South Carolina

TEST

A comparative test to determine the percentage variation in turns per inch in plied yarns made on tape and band driven twister spindles.

The object of this test was to determine the variation of twist in different bobbins from tape and band driven twister spindles.

The method used in making this test was as follows: I took eight hundred bobbins, four hundred from tape driven spindles and four hundred from band driven spindles, then ten inches of yarn was taken from each of these bobbins and the turns per inch found with a ply yarn twister counter.

The yarn used in making this test was 8's warp yarn twisted into three ply.

A summary of the data sheets from the two tests; one from four hundred bobbins from tape driven spindles, and one from four hundred bobbins from band driven spindles, were as follows:

Tape Driven Spindles	Band Driven Spindles
330.1	323.3
325.8	313.3
329.5	318.3
325.5	322.3
321.9	324.5
325.1	314.8
319.2	325.1
322.6	322.6
291.8	301.3
292.0	298.4
3,183.5	3,163.9

RESULTS

$$\frac{3{,}183.5}{400} = 7.95 \text{ Average turns} \qquad \frac{3{,}163.9}{400} = 7.91 \text{ Average turns}$$

	Tape Driven Spindles	Band Driven Spindles
Average turns per inch	7.95	7.91
Highest turns per inch	9.00	9.20
Lowest turns per inch	7.00	6.20
Turns variation	2.00	3.00
Percentage variation	25.1%	37.9%

Percentage difference in tape and band driven spindles 12.8%.

REMARKS

The foregoing observations were made over a period of several weeks and the tests were made in parallel. That is, an equal number of bobbins from both types of spindles were tested during the same day.

From the results thus obtained we have a variation of 2 turns or 25.1% with the tape driven spindles, and a variation of 3 turns or 37.9% with the band driven spindles.

Therefore we find 12.8% turns variation more with band driven spindles than with tape driven spindles.

The above test is submitted as the findings from this applicant. The results are not intended to be conclusive, as we expect to compile numerous similar tests from others in different sections and under different local conditions to arrive at a conclusive result before announcing a definite conclusion.

Criticism and suggestions of the methods used in making this test will be welcomed by The Arkwrights.

SUMMARY OF TEST NUMBER SIX

Prepared and submitted by
R. W. Arrington, Superintendent, Union Bleachery, Greenville, S. C.

TEST

Determination of gain or loss in tensile strength of cotton piece goods due to various operations in a chlorine bleach.

In making my determination I have taken five fabrics which I consider representative of a general line of cotton piece goods. Those five fabrics are the following:

30" 2.31 Twill
39" 96/64 3.10 Jean
37" 100/60 4.10 Broadcloth
36½" 72/80 4.70 Pajama Check
38½" 64/60 5.35 Print Cloth

In order to secure figures which I considered representative and to show a true comparison, I have taken on each fabric one piece each from six different bales. These pieces in each case have been marked and a sample taken from the same end of each piece after

(Continued on Page 28)

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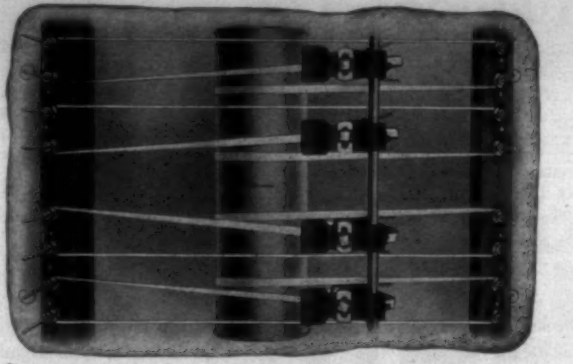

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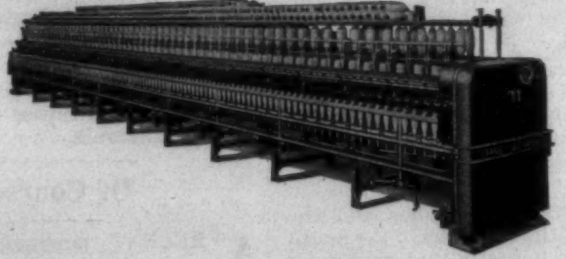

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Traveling With Hines

THE trip of Walker D. Hines, president of the Cotton Textile Institute, through the South gave us an unusually good opportunity of observing the man and his methods and of learning much of the attitude of the cotton manufacturers of the South towards the Institute.

The meetings planned for Mr. Hines were Monday at Greensboro, Tuesday at Charlotte, Wednesday at Spartanburg, Thursday at Greenville and Friday at Atlanta, and included in the Atlanta meeting was a group meeting of the manufacturers of narrow sheetings.

As our last forms go to press on Wednesday afternoon, we will not be able to report the meeting at Spartanburg on Wednesday or the later meetings until our issue of next week, but we attended the Greensboro and Charlotte meetings and had an opportunity of observing Mr. Hines in action and also noting the attitude of the cotton manufacturers who attended those two meetings.

Walker D. Hines is one of the outstanding men of the business world and has been uniformly successful in his undertakings.

He is a man of rather quiet manner and does not give the impression of aggressiveness, and if he did not have so many achievements to his credit, he would not attract unusual attention in a crowd of business men or lawyers.

He has, however, a wonderfully analytical mind and a man who has known him for many years has paid him a compliment by saying that he can come nearer unscrambling eggs than any man he ever knew.

Mr. Hines frankly says that he has had no previous knowledge of textiles or textile problems and that he is seeking information.

Some manufacturers seem to be a little impatient over the fact that there has been no definite work accomplished up to the present time but Mr. Hines is the type of man who does not act in haste or until he is sure of his ground.

In talking with the men who attended the Greensboro and Charlotte meetings, we found that there was a uniform and general desire to give Mr. Hines a full measure of support and also a hope that the Cotton Textile Institute would accomplish results.

There was, however, an undercurrent of skepticism due to the many failures of organized efforts in the past and with many it was a case of hoping for good but believing evil.

As we study Mr. Hines and the attitude of the mill men of the South we can say honestly that we expect results from the Cotton Textile Institute.

Almost every other large industry in the country has a similar or somewhat similar stabilizing organization and some industries that have regulated production to the point of seldom operating at full capacity have showed regular and substantial profits. The textile industry can profit by the experience of others.

The only definite move made by Mr. Hines, up to the present time, has been towards group organizations with committees in charge to secure better interpretation of the statistics as applied to its particular section of the industry.

The Cotton Textile Institute will develop slowly but will eventually do much for cotton manufacturing.

Coppersmiths Again

IN June, 1925, and on one occasion shortly thereafter we called attention to the fact that itinerant coppersmiths were defrauding many cotton mills through a system of misrepresentataions.

One mill that expected a bill of $100 for repairing a slasher cylinder received a bill for more than $1,000 and was only saved by a witness to the original conversation.

Another mill was forced to pay $2,100 for repairing dry cans which could have been purchased new for $1,500.

At that time the publicity drove the coppersmiths out of the cotton mill district and we heard that they fleeced the sugar mills for quite awhile.

Believing that their tactics have been forgotten the coppersmiths have now re-entered the textile field and as suckers are always plentiful in this field, are again fleecing cotton mills out of large sums.

At regular intervals certain skin games are played upon the cotton manufacturers of the South and, no matter how much publicity is given, there are always those who have forgotten the lessons of the past.

Last year men went through the South taking orders for a few short bars of tool steel but with a trick order book getting signed orders for car loads and many of the mills actually paid for the steel after knowing that they were defrauded. A mill that "bought" a car load of tool steel in 1899 has most of it on hand now and the game was played again about 1907 and in 1920 and again last year.

The coppersmith game is comparatively new but has within the past few years netted the operators several hundred thousand dollars.

Under no circumstances should any mill give any work to an itinerant coppersmith or tinsmith.

There are enough well established firms in that business and unless a mill man wants to qualify as an easy mark he should refuse to give business to itinerants.

Of Course

A RECENT newspaper dispatch relative to a recent committee meeting of the North Carolina legislature said:

> "The committee heard two speakers yesterday and listened attentively at length but today Mrs. Mary O. Cowper, of Durham, had to have her say.

Three Gallon With a Car of Coal

WE have heard of a quart of whiskey being by agreement in each barrel of sizing shipped from a certain small manufacturer and could name not only the manufacturer of the size but two overseers of weaving who bought the size with the understanding that a quart of booze should be in each barrel and should be their property.

Such instances are rare but have occurred at times, but not until last week have we ever heard of three gallons of whiskey being found in a car of coal.

In this case both the coal company and the mill officials were known to be innocent and no suspicion rest upon them, but the incident is amusing and reminds us of the mill in which a still was found in operation behind a boiler.

Will Junk Spindle to Avoid Taxes

THE treasurer of the Fairhaven Mills, at New Bedford, Mass., has announced that the management plans to junk approximately 30,000 spindles of the Fairhaven plant before April 1 in order to avoid paying taxes on them. It was explained by the treasurer that they are assessed on a basis of $12 per spindle valuation, and that on the present rate of taxation, the amount of the tax the mill would have to pay for these 30,000 spindles for 1927 is substantially more than there is any possibility of selling them for.

Cotton Bagging For Cotton Bales

THE question of substituting cotton bagging for burlap in baling cotton and for other wrapping purposes in the industry is receiving increasing attention. It is interesting to note in this connection that the New York Cotton Exchange already has the matter of selling cotton on a net weight basis under consideration. S. T. Hubbard, president of the Exchange, has asked the Warehouse and Delivery Committee to see what difference it can make in allowance for bagging and ties when cotton is delivered in cotton bagging instead of burlap. The matter of handling cotton on a net weight basis is one phase of the situation that affects the use of cotton covered bales.

The question of whether or not cotton bagging can be used for cotton bales appears to depend primarily upon whether a cotton fabric suitable for the purpose can be made at a price that can compete with jute. This gets back to the question of the tariff on jute. At the conference with Mr. Hines in Charlotte this week, one manufacturer asked Mr. Hines if the Textile Institute can go into this question from the tariff angle. Mr. Hines replied that the Institute is prohibited, in its by-laws, from entering into political matters. For this reason, it cannot take up the cotton bagging question as affected by the tariff. Mr. Hines, however, stated that the idea of substituting cotton for any fabric that it might replace would be carefully studied by the Institute in its plans to increase the use of cotton goods. The other textile associations can, however, do any work that is necessary to bringing the attention of the tariff makers to the duty on jute.

If the cotton manufacturers, together with cotton producers, make a serious attempt to get an adequate tariff on jute, the use of cotton goods for covering cotton bales can be brought about.

Personal News

J. A. Gorham, of Gaffney, S. C., is now located at Anniston, Ala.

Will D. Horton has been promoted to second hand in carding at the Payne Mill, Macon, Ga.

C. M. Byrd is now clothing cards and overhauling at the Forsyth Cotton Mills, Forsyth, Ga.

Lloyd Mayley has resigned as overseer of weaving at the Dacotah Mills, Lexington, N. C.

E. E. Shedd, of Whitmire, S. C., has accepted a position with one of the mills at Greenville.

W. L. Whisenant, of Danville, Va., has become overseer of night weaving at the Dacotah Mills, Lexington, N. C.

J. C. Ballard has resigned as superintendent of the Rhyne-Houser Manufacturing Company, Cherryville, N. C.

W. K. Lefkoff has become overseer of dyeing at the Grantville Hosiery Mills, Grantville, Ga. He succeeds the late W. H. Bolen.

Claud Looney has been promoted to section man in card room at the Osprey Mill of the Bibb Manufacturing Company, Porterdale, Ga.

W. A. McAbee has resigned as second hand in carding at the Payne Mill, Macon, Ga., and accepted a position in South Carolina.

J. T. Cothran, overseer of spinning at the Spartan Mills, Spartanburg, S. C., is seriously ill at the General hospital in Spartanburg.

L. R. Beaman has resigned as overseer of weaving at the Mercury Mills, North Charlote, to become designer at the Watts Mills, Laurens, S. C.

G. J. Bennett, formerly superintendent of the Marlboro Mills No. 4, McColl, S. C., has accepted the position of superintendent of the Rhyne-Houser Manufacturing Company, Lincolnton, N. C.

J. H. Clarke, formerly overseer of spinning, twisting and finishing at the Habersham Mills, Habersham, Ga., is now night overseer of twisting, and winding at the Clover Mills Company, Clover, S. C.

J. J. Barnhardt, vice-president of Cannon Manufacturing Company, Kannapolis, N. C., has been elected president of the Imperial Cotton Mills, Eatonton, Ga. He succeeds M. L. Cannon, resigned.

Ware Shoals to Let Contract.

Contract for the erection of an addition to the Ware Shoals Manufacturing Company, Ware Shoals, S. C., is expected to bet let March 15, the work to cost about $1,000,000. The addition, which will be connected to Mill No. 1, will be 304x134 feet, five stories high, steel construction, and will have 30,000 spindles.

W. C. Taylor to Handle Rayon and Silk.

Walter C. Taylor has resigned his position with the Southern office of the Duplan Silk Company, Charlotte, and will act as sales agent for G. Robinson, 44 East 25 street, New York and A. J. Pfeiffer, 95 Madison Ave., New York.

G. Robinson is an importer of rayon yarns, handling French yarns made from the viscose process, and designated as V. V. brand rayon. A. F. Pheiffer handles thrown silk and combination yarns. Mr. Taylor will cover the South for G. Robinson and the two Carolinas for A. J. Pfeiffer. He has opened an office at 209 Kinney Building, Charlotte.

Georgia Meeting Next Week

The spring meeting of the Textile Oeprating Executives will be held at the Henry Grady Hotel, Atlanta, March 15. The subject of the meeting will be waste control, the discussion to be lead by R. J. Jennings, of Lanett. The meeting will begin at 9:30 a. m. and adjourn at 1 o'clock for luncheon. There will be no afternoon session.

A large attendance from Georgia, Alabama and the Carolinas is expected and the program will doubtless prove of unusual interest. All mill men are invited to attend the meeting.

An Impostor.

The Tolhurst Machine Works, of Troy, N. Y., well known manufacturers of centrifugal extractors, advise that a man using one of the following names—Cummings, Butler, or Burton has been representing himself as employed or a former employee of the Tolhurst Machine Works. The company states that he used a business card bearing their name, together with the name "Cumming." The company states further that the man is an impostor, and is not, nor never has been employed by them under the name Cummings.

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L. R. Jamerson	Spinner
B. R. Westmoreland	Weaver
J. V. Westmoreland	Cloth Room
W. L. Brown	Electrician
H. E. Golden	Master Mechanic

Mansfield Mills, Inc.

Lumberton, N. C.

16,288 spinning spindles; 600 looms.

C. B. Skipper, Jr.	Supt.
C. M. Thompson	Carder
W. A. Duncan	Spinner
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MILL NEWS ITEMS OF INTEREST

Elizabeth City, N. C.—It is reported that W. H. Sanders plans to establish a silk hosiery mill here.

Asheville, N. C.—The Ray Hosiery Mills has been incorporated by W. Y. Frazier, C. A. Ricks and Claude S. Kinsland, all of Asheville and expects to establish a hosiery plant.

Roxboro, N. C.—It is understood here that the plant of the A. T. Baker Company, manufacturers of plushes and velours, has been sold to Collins and Aiken Co., 25 Madison Ave., New York.

Forest City, N. C.—The Alexander Manufacturing Company, is planning a number of changes in its weave room, including the early installation of 50 new looms which will be operated on different width goods from those now produced.

Burlington, N. C. — The Reading Hosiery Mill, Reading, Pa., is moving its plant to this city, part of the machinery now being in transit, it is understood here. S. S. Miller, president of the company, who was here recently seeking a site, has made no announcement as to his selection.

Rock Hill, S. C.—Fire, attributed to friction in an automatic feeder in the opening room of Victoria Mill No. 2, caused damage to a breaker, picker. The floor of the dusting chamber and eight bales of cotton suffered from the fire and water. The damage is not considered serious and is covered by insurance.

Marshall, N. C.—The Capitola Mill, recently sold by the receiver, has been reorganized as the Marshall Mill and Power Company. Those interested are G. F. Roberts, J. A. Anthony, H. S. Robinson, S. A. and L. N. Rudisill, of Lincolnton and D. W. Robinson, of Columbia, S. C. The plant has 8,816 spindles and owns a valuable waterpower development.

Fitzgerald, Ga. — The Fitzgerald Cotton Mills will double their capacity according to announcement made by R. T. Fish, of New York, vice-president of the company, following the annual stockholders' meeting of the corporation here. The company operates a 5,000-spindle mill here and also operates the mills at Hawkinsville and Cochran.

Mayor J. H. Mayes, of the city, is superintendent of the three mills.

Anderson, S. C. — Resumption of the night shift of the Appleton Manufacturing Company will take effect Monday night, March 14, it was announced. Arrangements whereby the extra shift will resume its work were completed at a meeting of officers of the corporation.

Improvement in conditions of the textile goods market which has enabled the company to find a market for much of its surplus stocks, is thought to be the reason for the resumption of the night shift.

Leeds, Ala.—A Pennsylvania silk mill company is contemplating the removal of its plant to this place.

Camphill, Ala.—The Chamber of Commerce is planning to have an Eastern mill locate its plant here.

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Greenville, S. C.—All officials and directors of the Virginia Manufacturing Company, of Fork Shoals, were reelected at the annual meeting of stockholders and directors held here. James H. Morgan, Jr., is president and C. J. Morgan treasurer.

The report showed that the plant had enjoyed a fairly successful year.

Lynchburg, Va.—The first carload of machinery for the branch plant to be established here by the Dundee Textile Company, of Clifton, N. J., has been unloaded and is now being installed. It is planned to train a small force of workers who will become a nucleus for a plant which the company hopes to build during the coming year on a site already acquired for that purpose.

Florence, Ala. — Florence business and professional men have accepted the proposition of the Gardiner-Warring Company for the establishment of a half-million dollar knitting mill here on condition that the city provide a building costing approximately $100,000. The Florence Industrial Corp. has been organized to meet this requirement and will lease it to the company for a period of 10 years, the company having the privilege of buying it.

Construction work on the new building was to begin this week on a site bordering the Lee Highway in East Florence. The sum of $65,000 was pledged by popular subscription, and W. M. Richardson, representing a group of business men, agreed to guarantee the rest of the $100,000.

Greenwood, S. C.—Officials of the Greenwood Cotton Mill announced that they were considering installing a new power plant in its No. 1 or old old mill and increasing the capacity of the mill to some extent, but as yet no contract has been let.

Work on the addition to the Ninety-Six Mill, owned and operated by the Greenwood Mill management, is progressing rapidly and will be completed within three months, it was stated. The capacity of this plant will be more than doubled with a total of 60,000 spindles.

Reports of an extension of the plant of the Ware Shoals Manufacturing Company, also in this county, have been in circulation for some time, but officials have not given out any statement.

Belmont, N. C.—A new dyeing and bleaching plant is to be erected here, a company having been organized as the Thies Dyeing and Processing Company. The company, which is capitalized at $750,000, has purchased a site and expects to begin construction of the plant within a short time. It will have an initial capacity of 100,000 pounds weekly.

Among those interested in the new company are the Lineberger-Stowe interests, who operate the group of fine combed yarn mills here; B. E. Geer, of Greenville and C. M. Geer, of Gastonia.

Machinery for the plant will be brought from Germany and will include complete equipment for dyeing yarns in all forms, cones, tubes, skeins, chain warps, cops and beams. The company has secured, it is understood, perpetual exclusive rights in North Carolina on the Thies machinery and three years rights for all the Southern States.

Macon, Ga.—The Bibb Manufacturing Company has let a contract for the enlargement of mill No. 2 on Hawthorne street, here.

This is one of the three new units the company will erect, it is said. The company recently purchased new machinery that could not be housed in the present buildings, making it necessary for more floor space. The contract was awarded to A. C. Samford, of Montgomery, Ala.

Spartanburg, S. C. — Sale of the Fairmont Manufacturing Company, of Spartanburg county, to the Union Buffalo Mills Company, of Union county, on the basis of $25 per spindle was made by H. B. Jennings, of Union, president of the Union Buffalo Mills. The transfer of the property was made, the financial consideration being in excess of $300,000. The plant is situated about 10 miles west of Spartanburg.

The Fairmont plants operates 12,000 spindles and 328 looms and employs 225 persons. Print cloths are manufactured. It is understood no change in the operation policy or the physical plant is contemplted. It uses waterpower for operation.

Located on Middle Tyger river in the western part of Spartanburg county, the present Fairmont Mill occupies a site which has been used for a textile manufacturing plant for approximately 75 years.

It is one of the oldest mills in the South and is either the second or third oldest in Spartanburg county.

Built as the Tyger Cotton Mill about the middle of the 19th century, the plant was operated until 1908, or thereabouts, when high water destroyed it.

The enterprise reorganized in 1909. The plant was rebuilt, and early in 1910 it resumed operations. The Union-Buffalo Mills, into the hands of which Fairmont has passed, is regarded as one of the strongest and most valuable textile properties in this vicinity. Harry B. Jennings was recently elected president, with H. C. Fleitmann, of New York chairman of the board.

Directors of the Union-Buffalo Mills are H. C. Fleitmann, of New York; H. B. Jennings, of Union; Frank E. Whitman, of New York; Former Gov. Richard I. Manning of South Carolina; Major Shachte, of Sumter; William Elliott, of Columbia; D. D. Little, of Spartanburg, and Fred S. Fleitmann, of New York.

Car of Coal yields Three Gallons

When a certain car of coal was shipped from the mines to Arcadia Mills, Spartanburg, S. C., as far as the coal company was concerned, it contained only the requisite tonnage of fuel. As far as the bill of laden was concerned, only coal was listed. As far as Arcadia Mills was concerned, only coal was expected.

But when the car was placed on the siding at the mill this week and its unloading was discovered to contain a prize, hidden down beneath the black mass of coal, very much as the penny prize packages of yore.

A gunny sack came to view, and several thirsty men shoveled coal with as much vigor as Woodruff folk labored to release Ring several days ago. Coming to view, the sack yielded a three gallon jacket can full of liquid corn.

Fate was against the finders, N. B. West, an official of Arcadia Mills was standing by at the time and Mr. West has an aversion for corn. Thereupon, the motion that the three gallons be turned over the rurals was carried without a dissenting vote and the thirst continued unabated.

News of the find leaked into the office of the local agent for the coal company, but that's all that leaked into his office. Immediately, there went out from his office in the city a form letter to customers suggesting that should they receive cars containing anything similar to the three gallons, the liquor part of the cargo be turned over to the authorities.—Spartanburg Herald.

Wanted

Young man with Warp Tying Machine experience. Must be single, free to travel and visit chain of mills. Must have fair education. Address "H" care Southern Textile Bulletin.

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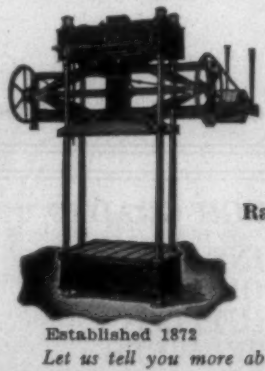

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(Continued from Page 19)

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Todd B. Meisenheimer, Celanese Yarn, Charlotte, N. C.; C. W. Tillett, Jr., Attorney, Charlotte, N. C.; J. E. Handon, Gen. Mgr., Bonnie Cotton Mill, King Mountain, N. C.; Carl H. Potter, Resident Mgr., Green River Mfg. Co., Tuxedo, N. C.; F. C. Sherrill, Gem Yarn Mills, Cornelius, N. C.; Fred H. White, Stafford Company, Charlotte, N. C.; E. C. Barnhardt, Gibson Mfg. Co., Concord, N. C.; George P. Entwistle, Treas., Pee Dee Mfg. Co., Rockingham, N. C.; W. R. Odell, J. M. Odell Mfg. Co., Pittsboro, N. C.; C. W. Byrd, Locke Cotton Mills, Concord, N. C.; A. G. Odell, Kerr Bleachery and Finishing Works, Concord, N. C.; Chas. A. Mies, Renfrew Mfg. Co., Concord, N. C.; Milton Ensor, Supt. and Treas., Rhyne-Anderson Mills Co., Troy, N. C.; E. O. Anderson, Pres., Rhyne-Anderson Mills Co., Charlotte, N. C.; J. L. Staten, Charlotte, N. C.; Thos. H. Webb, Treas., Locke Cotton Mill Co., Concord, N. C.; J. Adger Smyth, Balfour Mills, Balfour, N. C.; R. B. Pitts, Pres., Osage Mfg. Co., Bessemer City, N. C.

H. A. Lineberger, Belmont Processing Co., Belmont, N. C.; C. M. Geer, Art Cloth Mill, Lowell, N. C.; W. L. Nicholson, Jewell Cotton Mills, Thomasville, N. C.; Wade H. Harris, Editor, Charlotte, Observer, Charlotte, N. C.; John A. Johnson, Charlotte, Observer, Charlotte, N. C.; J. W. Warlick, Shuford Mills, Hickory, N. C.; D. P. Stowe, Perfection Spinning Co., Belmont, N. C.; A. C. Lineberger, Jr., Art Cloth Mills, Lowell, N. C.; J. L. Gray, Pres., Gray Mfg. Co., Gastonia, N. C.; B. B. Gossett, Pres., Chadwick-Hoskins Co., Charlotte, N. C.; A. M. Dixon, Mgr., American Yarn and Processing Co., Mt. Holly, N. C.; K. S. Tanner, Pres., Stonecutter Mills, Spindale, N. C.; David Lindsay, Supt., Spinners' Processing Co., Spindale, N. C.; A. R. McEachern, Pres., St. Pauls Cotton Mills, St. Pauls, N. C.; E. H. Williamson, Pres., Holt-Williamson Mfg. Co., Fayetteville, N. C.; W. E. Holt, Pres., Wennonah Cotton Mills, Lexington, N. C.; R. R. Ray, Treas., McAden Mills, McAdenville, N. C.

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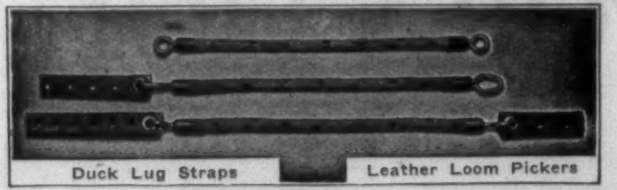

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Southern Factory Branch, Charlotte, N. C.

Arkwrights Report on Textile Tests

(Continued from Page 20)

the different operations. All of these samples were dried up after each operation and held until the entire number were available for testing. I feel by doing this that the test on each one was as nearly the same as could be obtained. Each sample was broken five times both warp and filling ways, therefore, each figure shown in the attached tables represents an average of thirty breaks; this being, of course, five breaks each on six different samples. The processes used in the bleaching were those common to a regular chlorine bleach and were as follows:

Grey Sour and Wash
Kier Boil and Wash

A 3 per cent solution of caustic soda was used and the goods boiled for 12 hours in a pump and heater kier with ten pounds pressure.

Chlorine Bleach and Wash
White Sour and Wash and Water Mangle
Starch and Dry
Calender

Following will be found the determinations concerning each fabric:

30" 2.31 TWILL

	Breaking Strength		% Loss in Warp From Grey	% Loss in Filling From Grey
	Warp	Filling		
Grey Sample	139.7	85.7	——	——
Grey Sour and Wash	129.4	82.5	7.36	3.74
Kier Boil and Wash	119.4	92.7	14.52	8.18*
Bleach and Wash	107.8	84.8	22.85	1.05
Sour and Water Mangle	121.7	78.9	12.90	7.93
Starch and Dry	118.7	77.7	15.05	9.34
Calender	114.8	72.7	17.85	15.18

*Gain.

39" 96/64 3.10 JEAN

	Breaking Strength		% Loss in Warp From Grey	% Loss in Filling From Grey
	Warp	Filling		
Grey Sample	97.50	35.7	——	——
Singe, Diastafor and Wash	98.13	34.3	.65*	3.92
Grey Sour and Wash	94.9	33.6	2.67	5.88
Kier Boil and Wash	101.4	39.97	4.0*	11.93*
Bleach and Wash	74.6	34.48	23.5	3.42
Sour and Mangle	84.0	33.06	13.85	7.4
Starch and Dry	87.94	31.8	9.82	10.91
Calender	89.4	31.3	8.32	12.32

*Gain.

37" 100/60 4.10 BROADCLOTH
MERCERIZED

	Breaking Strength		% Loss in Warp From Grey	% Loss in Filling From Grey
	Warp	Filling		
Grey Sample	66.9	27.9	——	——
Single, Diastafor and Wash	62.7	27.5	6.27	1.43
Grey Sour and Wash	64.2	26.8	4.04	3.94
Kier Boil and Wash	66.4	28.8	.74	3.23*
Mercerize and Wash	64.5	25.8	3.59	7.53
Bleach, Sour and Mangle	63.9	25.3	4.49	9.33
Starch and Dry	62.9	18.4	5.98	34.05
Calender	56.6	18.1	15.40	35.10

*Gain.

38½" 64/60 5.35 PRINT CLOTH

	Breaking Strength		% Loss in Warp From Grey	% Loss in Filling From Grey
	Warp	Filling		
Grey Sample	45.1	31.5	——	——
Singe, Diastafor and Wash	39.7	29.6	11.95	6.03
Grey Sour and Wash	31.07	19.8	81.0	38.4
Kier Boil and Wash	46.37	30.8	2.82*	2.22
Bleach Sour and Mangle	38.8	26.1	13.96	17.7
Starch and Dry	46.9	28.0	4.00*	11.1
Calender	43.53	28.07	3.44	10.9

*Gain.

36½" 72/80 4.70 PAJAMA CHECK

	Breaking Strength		% Loss in Warp From Grey	% Loss in Filling From Grey
	Warp	Filling		
Grey Sample	44.07	35.4	——	——
Singe, Diastafor and Wash	48.3	33.9	9.6*	4.24
Grey Sour and Wash	43.17	32.57	2.02	8.00
Kier Boil and Wash	50.0	34.6	13.46*	2.26
Bleach Sour and Mangle	38.0	21.7	13.75	38.70
Starch and Dry	50.4	29.1	14.35*	17.80
Calender	46.2	32.5	4.83*	8.20

*Gain.

CONCLUSION

A loss in tensile strength of 10 per cent due to bleaching is usually considered not to be excessive. A study of the foregoing figures shows a very wide variation both upward and downward from 10 per cent. The figures on the various operations also show a wide variation in results. The only operation which showed anything like a consistent figure was the operation of kier boiling and washing, which showed in each case a consistent gain. This is to be expected with this operation. On other operations where normally one would expect a gain, such as the operation of starching, the figures show in several cases a loss. Also the operation of calendering showed usually a loss. Generally speaking the tensile strength due to the bleaching operations alone did not show an excessive loss.

The above test is submitted as the findings from this applicant. The results are not intended to be conclusive, as we expect to compile numerous similar tests from others to arrive at a conclusive result before announcing a definite conclusion.

We welcome criticism and suggestions of the methods used in making this test.

Mill men who desire to see a complete copy of these tests may secure them upon application to J. M. Gregg, secretary of The Arkwrights, 519 Johnston Building, Charlotte. Copies of the tests will be loaned with the understanding that they are returned to the organizaiton.

Practical Discussions

(Continued from Page 16)

Answer to Second Hand.

Editor:

To reduce the distance between the thread boards and the top spindles, when it is not desirable to lower thread boards below the roll beam the best way is to raise the spindle railing up to the height required.

In order to do this it will also be necessary to raise the cylinder to correspond, or else the bands would run off of the spindle whorls.

Wayout.

Answer to H. F. D.

Editor:

In a recent issue, in the Practical Discussion columns there was a question about cloudy carding, which I think I can help the writer to solve.

He should set his flats to cylinder to No. 9 gauge, doffer to cylinder No. 7 gauge, licker-in to cylinder No. 7 gauge, feed plate to licker-in No. 10 gauge. His cards should be stripped three or four times in ten hours run.

Hoping I have helped him in his work.

C. A. S.

Slack Warp Threads.

Editor:

I notice a question on your Discussion Page for information as to what makes threads run slack. I would say the trouble was in the roller that wrings the size out of the warp as it comes out of the starch vat. The rollers are evidently not properly covered. When the old cover becomes worn and ragged, some slasher tenders will run new cover on top of the old. That will make ridges and lumps and soft places on the rollers.

For this reason, the warp cannot absorb and carry the same amount of size over the drum. The old cover should be removed from worn or ragged, cleaned to a new smooth surface and the new cover applied without wrinkles.

Four to six ply warps will absorb size evenly throughout and there will be no slack threads until it reaches the last roller before going on the loom beam. The same trouble may be there. In case there is, see if there are any hard or soft places, or torn or ragged spots in the roller covering. This will break the size so it will not dust off when it reaches the loom. The thread will become soft and stretch. The front roller should be very soft and smooth. I think this will stop the warps from having slack threads at intervals. Good warps hold.

Experience.

Program For Textile Week At State College

Textile Week will be observed at the textile department of N. C. State from Thursday March 24 to Saturday March 26. The plans for the week were recently outlined in these columns. A number of well known textile men will make addresses and there will be an exposition showing the various goods made at the school and other phases of the work done by the textile students.

The program has been announced as follows:

Thursday, March 24.

I. L. Langley, cost accountant, Consolidated Textile Corp., Lynchburg, Va. Subject: Cost Accounting in Cotton Mills.

10:00 a. m — R. W. Arrington, superintendent, Union Bleachery, Greenville, S. C. Subject: Modern Bleaching and Finishing of Cotton Piece Goods.

11:00 a. m.—E. R. McKee, DuPont Rayon Company, Old Hickory, Tenn. Subject: Rayon and its Possibilities.

2:00 p. m.—I. L. Langley, cost accountant, Consolidated Textile Corporation, Lynchburg, Va. Subject: Cost Accounting in Cotton Mills.

3:00 p. m.—W. Larkin, Fidelity Machine Company, Philadelphia, Pa. Subject: Knitting of True Ribbed Fabrics.

4:00 p. m.—Todd B. Meisenheimer, Southern representative, American Cellulose & Chemical Company, New York. Subject: The adaptability of Celanese for General Types of Fabrics and various New Novelty Finishes.

Friday, March 25.

I. L. Langley, cost accountant, Consolidated Textile Corp., Lynchburg, Va. Subject: Cost Accounting in Cotton Mills.

10:00 a. m.—David Clark, publisher, Southern Textile Bulletin, Charlotte, N. C. Subject: Development and Future of the Textile Industry of North Carolina.

11:00: a. m.—Frederick Moore, past president, North Carolina Association of Certified Public Accountants, Charlotte, N. C. Subject: A new conception of Cost Accounting. Illustrated with latern slides.

2:00 to 6:00 p. m.—Textile Exposition—Operation of machinery and exhibition of students work.

Saturday, March 26.

9:00 to 11:00 a. m.—I. L. Langley, cost accountant, Consolidated Textile Corporation, Lynchburg, Va. Subject: Cost Accounting in Cotton Mills.

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______________________________1923

Name of Mill______________________________

Town ______________________________

__________Spinning Spindles __________ Looms

______________ ______________ Superintendent

______________ ______________ Carder

______________ ______________ Spinner

______________ ______________ Weaver

______________ ______________ Cloth Room

______________ ______________ Dyer

______________ ______________ Master Mechanic

Recent changes______________________________

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DOMESTIC
EXPORT

Says Hand-to-Mouth Buying Is Stabilizing Influence

(Continued from Page 14)

In other words, for the same quantity of merchandise, as stated above, we might receive 11 orders, look up the credit 11 times, make out 11 orders, make 11 shipments, and send 11 bills. As a matter of fact, due to this state of affairs, it has been necessary for us to increase our personnel in the office and shipping room 70 per cent.

There is one additional vital factor that enters into this discussion, namely, fluctuations in the costs and values of raw materials, and there is also the other serious item of sudden depreciation, due to style changes, in merchandise, both finished and in the course of manufacture. I mention these two factors hurriedly in passing, but leave it to your own imagination and judgment as to what the contingencies are that must be taken into consideration in carrying stocks of these dimensions.

Let us stop to think of the ordinary problems that have to be met as a result of hand-to-mouth buying by the manufacturer of a staple commodity, for instance a toliet soap, or a food, or tooth paste; bear in mind that each of the above named articles is equally adapted to use by men, women, and children, no special articles having to be made for each; that only one size and color are required throughout the year; that no style changes can take place; and that stock inventories are subject to practically no depreciation or change. You will then have a picture of what hand-to-mouth buying signifies when multiplied by the vagaries of style changes.

It occurs to the writer that there were three distinct phases to the way that the change from advance-buying to hand-to-mouth buying was received by manufacturers, when it first dawned upon them that this change was taking place. First, there were those who immediately took reactionary stand and refused to permit themselves to be controlled by the new order of things, and who held out as long as they possibly could in this obstinate frame of mind.

Second, there were those who accepted the change as a necessary evil and permitted themselves to be carried along with the stream, accommodating themselves to the new trend, but doing so to a large extent under protest.

Third, there were those who immediately accepted the new situation with good grace and, without any hesitation, decided to make a virtue out of what seemed to be an evil, and who capitalized the situation to as great an extent as possible. The manufacturers who can be classed in this category have found it possible to take advantage of the situation and to increase their business operations tremendously as a result of it.

In general, my analysis leads me to the conclusion that there is much good and little harm in hand-to-mouth buying. It unquestionably increases the cost of selling, warehousing, and operating. On the other hand, it is a question or not this increased cost is offset by the decrease in inventory investment over the investment which might have obtained if future buying were still in vogue. Personally, I think the expense if offset by the reduction in inventory. But of even greater importance, to my mind, is the stabilizing effect upon our industry. Minimum stocks and minimum commitments exist everywhere. I do not see how any depression could affect us seriously. There would be practically no cancellations and it is inconceivable that any manufacturer would be unable to feel a slowing up in buying in time to protect himself. The merchant and the manufacturer and the vender of raw materials are all freed from the worry of cancellations or frozen stocks.

Personally. I am greatly in favor of the present method of buying if it is handled properly. I believe it has come to stay and that the big problem which confronts us is to work out a fair and profitable cooperation between the merchant and the manufacturer.

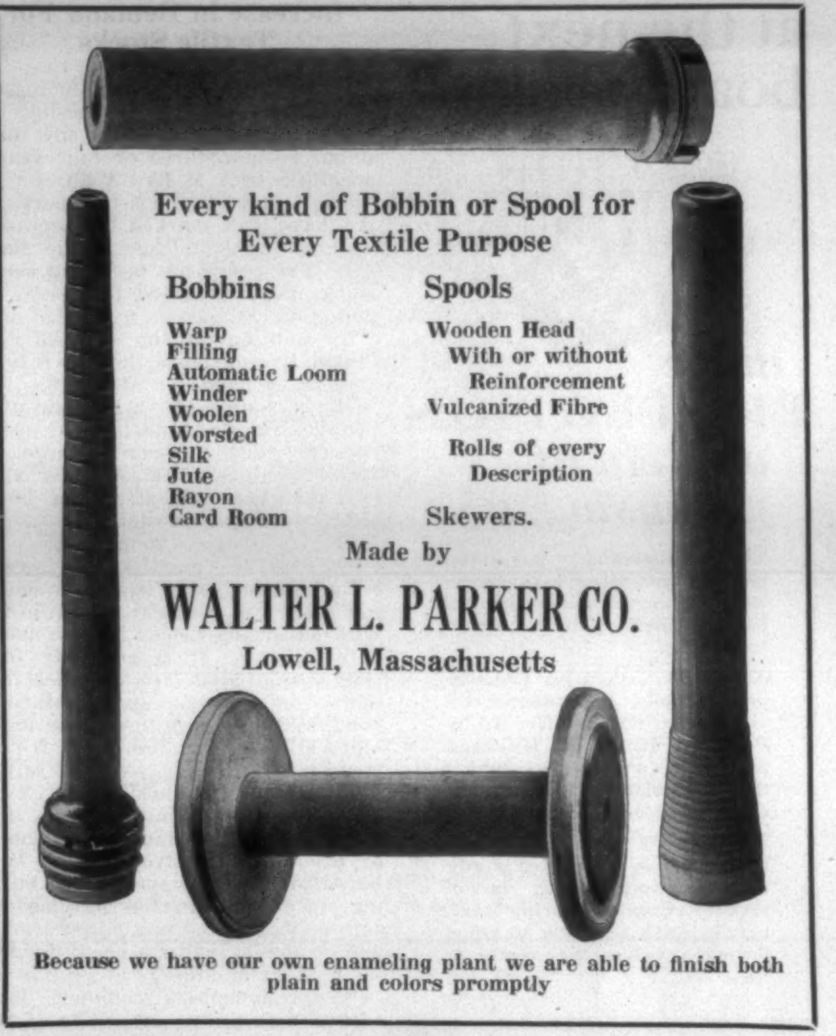
I feel that it is a situation that is still so new and unprecedented that we are all of us to a certain extent floundering about in an effort to get our bearings and get our feet on the ground. However, as they say in England, we are going to muddle through and make the most of what might be considered a bad situation. I think the American manufacturer and merchant have demonstrated in a remarkable way their faculty for adjusting themselves to a novel situation which has been fraught with difficulties and knotty problems, and have come through with flying colors.

World Improvement in Textiles

The cotton spinning industry of the world is holding the improvement which it has experienced in recent months; and in England at least is making further gains, according to the Garside Cotton Service, of Boston. World consumption of American cotton is still heading toward a total of 15,250,000 to 15,500,000 bales during the current season.

"In this country, manufacturers generally well sold for varying periods ahead, ranging from one month to four or five months," says the Garside Service. "They are having no difficulty selling the relatively small unsold portion of their output at sustained prices. The large production of goods is holding down prices and preventing margins from increasing, but margins are sufficient to encourage continued full activity of mills. The most encouraging phase of the situation is the steady broad demand for finished goods.

"In England, sales of yarns and cloths still run ahead of current production, putting more business on mill books. Some weavers are well sold to the end of the year. Spinning margins are slowly increasing. In Germany, spinners and weavers are still finding business good. Reports from France indicate that the outlook there is a little more favorable, although business is still poor."



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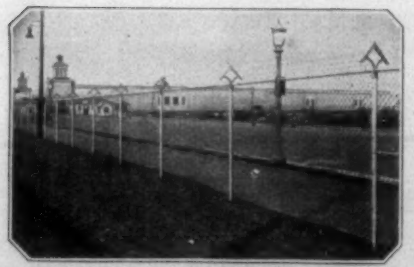

PAGE
Chain Link
FENCE

Increase in Demand For Textile Stocks

Spartanburg, S. C.—An increased demand for first stock, trading in textile mill stocks is better now than it has been in three or four years, according to A. M. Law & Co.

The last two months, in particular, have been marked by increased trading and confidence in the market. The result has been that some stocks have increased from 5 to 12 points.

In addition to the demand for speculative purposes there is a substantial demand for stocks for investment purposes. Although the profit margins are not large at present they are sufficiently large to show earnings to most mills and earnings that are attracting both speculators and investors.

The company's statement says:

"The last two months has witnessed quite a revival in trading in common stocks of Southern cotton mills with advancing prices for the more active issues. It is generally felt that cotton mills are experiencing more satisfactory manufacturing conditions than any time since 1923, and while the margin of profit is not large it is sufficient to show satisfactory profits for most mills.

"This activity in mill stocks is beginning to stimulate interest in some of the more inactive shares. We have had the first speculative buying since 1923. Parties purchasing active stocks of strong corporations will be able to realize a profit during the next six months.

"Victor-Monaghan common has advanced from the low price of 89 in December to 101. Eight per cent dividend is being paid by this company and will probably lead to a higher price, especially as there are very few offerings.

Clifton has advanced from 131 to 135 with no stock available now.

Union-Buffalo first preferred has advanced from the low price of 86 to 91, present quotation of 91, with practically no offerings. The second preferred is in good demand at 47 with no offerings.

Orr common is selling at $100 per share as compared with 91 in December.

Bibb Manufacturing Company common has advanced from 110 to 121 with quite active trading and firm price at current quotations.

Piedmont, which is usually inactive, has been quite active with prices advancing from 124 to 130.

In addition to speculative buying there is also an excellent investment demand for well known preferred stocks such as Monarch, Pacolet, Arcadia, Beaumont, Bibb, Riverside, Dan River and Judson, all of which are sellat a premium."

Mill Conditions Improved

That all cotton textile mills in the Piedmont section of the Carolinas ruinning on full day schedules and many, probably, a majority, of them are running both day and night, is indicated in the results of a survey of the industry made by the Charlotte Observer

So far as the survey disclosed there is not an idle mill in this great Southern textile region.

The survey also disclosed the fact that the textile operators are more optimistic than they were a few months ago; that the industry is on a more stable basis generally; that many of them have orders booked farther ahead, and that conditions are more nearly normal in most respects than they were during most of last year.

However, some of the mill officials describe the prospects for continued full-time operation as "much better than the prospect for profits." The survey indicated that the margin of profits continues to be small as a general rule.

Improvement in Gaston.

In Gaston county, which boasts more than 100 textile plants, mostly yarn mills, conditions were reported now much better than they were last fall or at any time in 1926, except the first three months of the year. All mills are running full time, and a large majority both day and night, according to the reports of The Observer. The mills are sold ahead an average of nine and three tenths weeks as compared with four weeks the first of last March. Stocks yarns on hand are lower than a year ago and pessimism and nervousness are noticeably absent among the mill officials.

In Mecklenburg county spindles and looms are running on fuller time than they were a year ago and the mills particularly the yarn manufacturers, are sold farther ahead than they were. The mills are running on full day schedules, and many of them are operating at night.

Cabarrus Conditions Better.

Increased orders sufficient to indicate normal business for several months is the basis of optimism among the mill operators of Cabarrus county, where the textile business is reported to be 50 per cent more stabilized than a year ago and 25 per cent more stabilized than last fall. All mills are running full day time and the larger ones at night also.

In York county, S. C., all 17 mills are reported running full time and many of them at night, while prospects are described as "very encouraging." Mills in adjacent counties also reported on full time.

At Albemarle, all mills are reported running full day time, with some night work. Full-time operations were resumed last fall.

Much Activity at Lexington.

All mills at Lexington and Erlanger are running day and night except one, which is running full day time and partly at night. Prospects are for continued full-time operations, though margins of profits are said to be small. Orders are more plentiful than early last year.

The textile industry in Cleveland county is reported to have shown marked improvement during the first two months of this year. All 22 mills are running on full time. Textile traders are more optimistic than they were last year and think that improvement promises to continue.

Extension of the textile industry round Greenville and Greenwood, S. C., is forecast by contracts recently awarded and reports of additional developments planned. Develop-

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ments include new mills and additional old ones.

Spindles and looms of Mecklenbug's textile mills are running on fuller time this year than this time last year, according to textile men of Charlotte, and the fact is adding a pretty penny to the aggregate buying power of families that lives in the mill communities. All mills are running fuller time and many are running nights also.

An advantageous factor in the mill situation here, particularly with yarn mills, is that they are sold out considerably ahead, a circumstance that stimulates and steadies production.

Sold Farther Ahead.

"Mills may be running not so many nights during the past two months as they were during the two months of the same period last year," E. C. Dwelle, of the Chadwick-Hoskins Company said, "but they are sold out farther ahead and the results makes for more steady work and more hopeful days ahead."

"Practically all mills of this county and adjacent sections are running on full time," D. H. Hill of the Clark textile publications, said, and may well be said to be in somewhat improved condition over the conditions that were prevailing last year."

Mr. Hill, as an observer of general activities in the textile field, expressed the belief that enterprises of this section may be expected to quicken their pace during the next few months rather than to slow up.

"'Most of the yarn mills, I believe, are sold out six or eight weeks ahead, which is a very healthy condition," Mr. Hill said, "although there is general complaint of the lack of profit in present yarn prices."

The opinion of Messrs. Dwelle and Hill was supported generally by the textile men consulted, all of whom seem optimistic as to the prospects for textiles just ahead.

Form Wide Sheeting Group in Textile Institution

At a meeting last Thursday in the offices of the Cotton-Textile Institute, New York, the members of wide sheetings, sheets and pillowcases formed a group within the Institute, to be known as the "Wide Sheetings Group." The meeting was called to order by Walker D. Hines, president of the Institute, to explain its purpose and outline the specific field of activities for the consideration of the members.

Pursuit to the provisions contained in the by-laws of the Institute, an advisory committee was appointed to consider the problems and policies of the group, and to make recommendations. This committee consists of H. R. Fitzgerald, chairman; Ernest N. Hood, and Russell H. Leonard.

The first point advanced was the desirability of the collection and dissemination of more complete information. The question of new uses was táken up, as well as the problems relating to cost accounting. The question of extending export markets and the desirability of impressing on the public the much greater convenience to be had in sheets of longer length.

The chairman of the advisory committee was authorized to seek co-operation of and in meeting with the wide sheeting group of the Association of Cotton Textile Merchants of New York, so that the question of production and distribution relating to this group could be dealt with more effectively.

It was then agreed that the advisory committee call another meeting of the group, just as soon as the matters referred to the advisory committee have further consideration on the part of the group as a whole.

Those attending were:

J. B. Newton, Androscoggin Mills; U. Morris Shockley, B. B. & R. Knight, Inc.; John Stout, C. R. Miller Mfg. Co.; K. P. Lewis and W. A. Erwin, Jr., Erwin Cotton Mills; W. S. Nicholson, Excelsior Mills; Leroy Springs and George Fish, Fort Mill Manufacturing Co.; W. E. Winchester, Lockwood Co.; Ernest N. Hood, Naumkeag Steam Cotton Co.

Edwin Farnham Greene, Pacific Mills; Amory Coolidge, Pepperell Mfg. Co.; H. R. Fitzgerald, Riverside & Dan River Cotton Mills; C. F. Broughton, Wamsutta Mills; J. C. Sanders, Cotton Mills Products Co., and George Nichols, Dwight Mfg. Co.

Output of Small Cotton Wares Increases

Washington, D. C.—The Departmeent of Commerce announces that, according to data collected at the biennial census of manufacturers taken in 1926, the establishments engaged primarily in the manufacture of cotton smallwares valued at $74,675,006, an increase of 2 per cent as compared with $73,223,566 for 1923, the last preceding census.

The principal products of this industry are narrow woven fabrics, not over 12 inches in width, and braids of every description, made principally from purchased yarns. These products include woven belting and hose, elastic and non-elastic webbing, tape, trimmings, edgings, bindings, corset laces, and wicks and wicking.

In addition, cotton smallwares are manufactured to some extent as secondary products by establishments engaged primarily in other industries. The value of such production outside the industry proper in 1923 was $11,532,676, an amount equal to 15.7 per cent of the total value of products reported for the industry as classified. Of this amount $11,19,615 was reported by cotton mills.

The corresponding value for 1925 has not yet been calculated but will be shown in the final report of the present census.

Of the 230 establishments reporting for 1925, 66 were located in Rhode Island, 52 in Massachusetts, 39 in Pennsylvania, 16 in Connecticut, 15 in New York, 12 in New Jersey, six in New Hampshire, five in Gergia, five in North Carolina, and the remaining 14 in eight other States.

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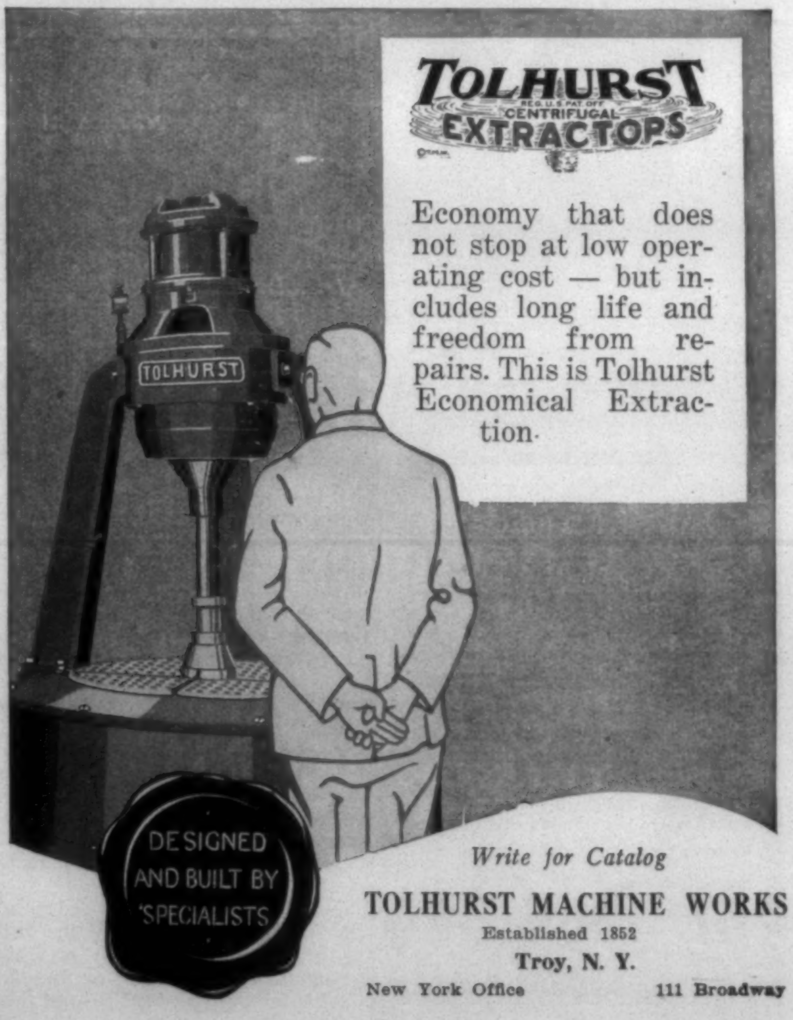
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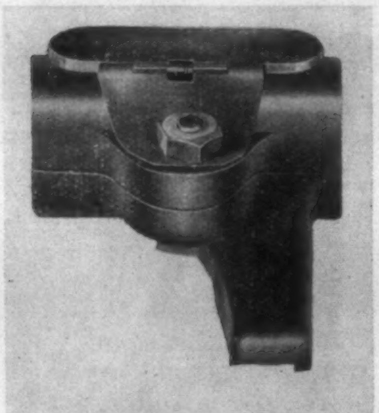

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Tensile Testing of Textiles

(Continued from Page 8)

proved to be fairly reliable where tried out carefully. The correction factors depends on the weight per square yard, W, and the per cent moisture regain, M, at the time of test, and the standard regain of 6.5 per cent.

$$\text{Correction factor} = \frac{100+6.5((\%W)}{100+M(\%W)}$$

The strength found by test, multiplied by this factor, gives approximately the strength for a moisture content which corresponds to the standard regain of 6.5 per cent. More data on the use of this correction formula will be necessary before enough confidence in it will be established to bring out the necessary tables of corrections to convert found strength to standard atmosphere strength. Accumulation of data from this method is worthy of careful consideration.

A third is that of testing all yarns and fabrics in a wet state. This method is quite easy to carry out, but so far there are not enough data to show its practicality.

How necessary and how complicated the maintenance of standard atmosphere is in some places will be understood by a study of the temperature and relative-humidity curves shown in Fig 8, which the charted records show for a Southern cotton mill for the month of August, 1925. A study of these curves in connection with a vapor-pressure curve, such as that of Fig. 9, will show that the moisture content of the air was fairly constant throughout the day for most of the three month period, but that the relative humidity changed from between 20 and 30 to between 80 and 90 per cent every 24 hours, except in a few instances which are probably accounted for by showers.

The same yarn or fabric tested under standard atmosphere conditions may show a variation as great as 20 per cent between tests with 6-in. and 24-in. rates of stretch per minute, depending somewhat on the stretchiness of the yarn or fabric—the more stretchy the greater the variation as a rule.

Standardizing the rate of stretch for the tests is probably the best means of overcoming this difficulty. A single standard rate may not be found desirable. The serigraph test for raw silk is standardized to have a 6-in.-per-minute rate of stretch, higher rates having been found much less consistent and reliable. In comparing the effect of rates of stretch, the same length of specimen should be used.

Constant-Rate-of-Loading Machine.

Constant-rate-of-loading machines have been proposed from time to time as a means of overcoming the difficulties found in comparing tensile tests, on account of variability in stretchiness. By this means samples of fabrics having different stretch but about the same ultimate strength could be brought to the break in the same time through the constant-rate loading. Some very ingenious devices have been brought out in Europe (some with autographic recording charts) in which a constant flow of water or fine shot constitutes the constant rate of loading. These machines have been used successfully for experimental purposes, but the author knows of no adequate data from their use to show that they have any practical superiority over the constant-rate-of-stretch machines.

A very ingenious constant-rate of-loading machine has been brought out in this country which is motor driven and does not depend on a flow of water or shot, yet gives a constant rate of loading, whatever, the chosen rate or whatever the length, strength, or stretchiness of the sample. More work should be done with this machine to establish its superiority over the constant-stretch, deadweight type of machine for practical purposes. If the superiority can be well established, simplification of the machine should be studied so as to make possible a machine for practical testing as well as experimental laboratories.

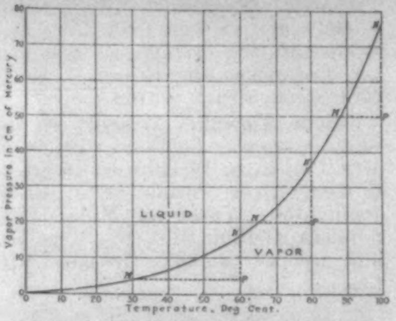

Fig. 9 Vapor-Pressure Curve.

Water Vapor at Saturation

Temperature, deg. cent.	Vapor pressure, cm. mercury
0	0.46
5	0.65
10	0.91
15	1.27
20	1.74
30	3.15
40	5.49
50	9.20
60	14.89
70	23.33
80	35.49
90	52.55
100	76.00
150	358.00
200	1168.90

Ballistic types of tensile testing machine for yarns and fabrics have been proposed, designed, and used in hope that more accurate results might be obtained than those from tests on the constant-stretch machines, but the author knows of no adequate data on results from practical use to warrant further mention here. This type of tests has its appeal to those interested in energy considerations.

Interpretation of Results.

Tensile tests, in order to be safely comparable, must be made on the same type of machine very carefully in the same way in every particular. Placing and clamping the sample in the grips (jaws) carelessly may make a quite considerable difference in the result. The twist of yarn should be carefully preserved in the gripping operations. Strips of fabric should be clamped so as to avoid, as far as possible, making a tearing test by breaking first on one side and tearing across the strip, etc.

The art of interpreting the results from tensile tests on yarns, threads, or fabrics, with reference to their

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various uses, is to a great extent still in its infancy, but there seems to be a rapidly growing understanding that an intelligent tryout in practice is essential to safe interpretation.

The interpretation depends to a very great extent on the use to be made of the textile product tested. A square-woven tire fabric or airplane cloth should have the same strength and stretch in both warp and filling directions, and in heavy fabrics crimp should be given consideration in connection with stretch. A belting duck should show high strength and low stretch in the warp direction, but in the filling direction high strength might be undesirable. An osnaburg used for making a water proof fabric for waterproofing cement structures such as swimming pools, should not be compared with osnaburgs suitable for cement sacks. Strength may be emphasized too much in a specification of a fabric, for example, such as those used for making the unifoms of policemen where wearing quality is of first consideration, a better wearing material being often available at a lower cost if the strength specification were not so high.

A tire cord should show the desired strength and should show a high stretch as compared with that of the singles from which it is made, the stretch of the cord being usually from four to six times that of the single yarn.

These examples will give a hint as to interpretation in practice, but should be studied carefully in use and not accepted as rule-of-thumb.

Future Investigation.

Future investigations for the purpose of general improvement in tensile testing of textiles will probably center about one or more of the following points of departure:

1. The development of constant temperature and relative-humidity testing rooms.
2. A more comprehensive study of the comparative merits of the large number of different grips already in use, which would probably bring out in course of time something superior to anything yet designed.
3. Studies to determine the most desirable constant rates of stretch or loading with special reference to the possible establishment of a single constant rate that will serve for tests on a considerable variety of yarns and fabrics.
4. Studies to determine the relative merits of averages of single-strand tests and skein or lea tests and yarn-strip tests.
5. Size and face of jaws best suited to strip and grab tests on woven fabric.
6. Interpretation of results of the tensile tests for different materials used for widely different purposes.
7. Others less definite of statement.
8. Practical uses not thought of today.

Meanwhile the deadweight pendulum type of machine designed to give constant stretch and autographic records has reached a state of perfection, and methods of using it have become sufficiently standardized to warrant a very wide application of tensile tests to textile raw materials and finished products.

Oil Aids in Knitting Rayon Yarn

The Bureau of Standards, Department of Commerce, in cooperation with the National Association of Hosiery and Underwear Manufacturers, has been studying the prevailing practice in reference to the amount of oil used as an aid to knitting rayon yarn, and recommends six percent as a satisfactory standard for oil content.

Oil as a softening agent is an important factor in knitting rayon. Rayon fiber has a tendency toward stiffness or witness, so that a softening agent is necessary in producing balanced, uniformly-constructed stitches. For instance, when a strand of unoiled rayon yarn is drawn over a sharp angular projection, its cylindrical shape is flattened and the filaments of the yarn separate. This may result in broken filaments with a consequent nappy or fuzzy appearance. A similar strand of the yarn when oiled becomes so flexible and pliable that it retains its form and appearance under stress.

There are several aspects in the use of oil which must be considered, such as its relative value as a softener, its cost, and its removability. These factors were not considered specifically by the Bureau in the present investigation, but they may be taken up later. One phase of the cost, however, is a controlling factor in fixing a standard per cent of oil, and this is the difference in the price of rayon and oil; hence the desirability of minimizing the oil content. This is particularly important from the standpoint of the majority of the hosiery manufacturers, for they buy the oiled rayon, and any excess of oil beyond that required for good knitting is an economic waste.

Early in the consideration of the problem of oil in rayon it was found that a wide range of percentages was in use. The National Association of Hosiery and Underwear Manufacturers had an increasingly large number of inquiries on this subject. It was, therefore, considered desirable, since the full study of oil in rayon would require too long a period of time, that the present needs of the hosiery manufacturers would be met by studying the practice throughout the industry and from the collected data fixing a standard percentage of oil for use on rayon.

Accordingly in response to a request for data and samples, 26 manufacturers generously cooperated by sending samples of rayon as used in their knitting department and a statement as to the percentage each believed, from his experience, would produce satisfactory results. Tests for oil content were made on all these samples, and, in addition, the results of tests on 26 samples submitted previously in connection with individual research problems were considered.

On the basis of these results, it is therefore proposed that the percentage of oil for rayon yarns to be used for knitting be 6 per cent maximum, based on the weight of the conditioned sample.

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Cotton Goods

New York.—The cotton goods markets were moderately active throughout the week. Prices were steady on both finished and unfinished lines and in some instances were firmer at an advancing tendency. Buyers have met difficulty in securing many constructions for prompt delivery and as a result numerous contract sales for April and May delivery were reported. Production continued large in practically all branches of the industry, but there has been no accumulation of goods.

There were large sales of colored goods and mills are better sold ahead now than at any other time in the past three years. Reports from the mills making fine combed goods showed that they have large orders on hand for the next sixty days and contracts are being offered them that would run through the summer months. There was an active demand for printed goods. Bleached goods were not so active, but mills are busy on large orders. Ginghams showed improvement during the week and flannel business for fall has been better than for some seasons past. Cotton duck mills are well occupied and prices on these goods hold steady. The larger tire fabric mills are well under order and sales last week were moderately large. Towels were in good demand and rayon goods continued active.

A large volume of business was transacted in the print cloths at full prices and a number of constructions were further advanced, with practically none sold at the higher levels. A few found print cloths much less active than they had been, with much more doing in the sheeting section. Though exceptional contracts were placed for up to 12,000 pieces. Most of the inquiry was for April, May and June deliveries. The week's business exceeded 600,000 pieces, some contracts running to September.

In print cloths 64x60s sold for 6⅞c, May delivery, and 60x48s at 6c, for the same period. June and June-August 68x72s sold for 7⅝c, May at 7¾, and unfilled orders for April at 7⅞c. A few spot lots were taken at 8c. May 80 squares sold at 9⅞c in unimportant quantities, and nearer at 10c, spots being nominally 10⅛c. June, with the possibility of some May 72x76s, were quoted 9c, June having sold at the figure.

There was a fair business in sheetings, with some further strengthening noted in several styles. Good orders had again been taken in the 40 squares, 6.15 yard at 5⅛ net. At the close, some houses had decided to take no more of these at one-eighth, and were holding for one-quarter. June-July was included in the business of the day in the 6.15s.

The 44x40, 6.15 yard had sold, spot, 5¼ net. There was business in 5.50 yard at 5⅝ net. A number of houses advanced to three-quarters, and a few small lots sold at three-quarters. For quick, three-quarters is being generally held. There had been reports of some fair business in 37 inch, 48 squares, 4.00 yard for March April, at 7⅜ net. One house sold April-May at this price, and reported it had advanced its price to one-half. For 52x48, 4.00 yard, 7⅝ net was paid; 56x60, 4.00 yard at 8 net, and some quoting one-quarter higher; 36-inch, 3.00 yard sold in a fair way, at 9¼ net; 36 inch, 5.00 yard are at 6¼ net, 4.70 yard had sold for April at 6 net, and also sold at this price for April-May. One house reported it had turned down bids of even money, and quoted one-eighth higher.

The business in 100x60 carded was again at 10¾ cents. Several centers are well sold to July 1 as the result of the trading of the past two days.

A substantial quantity of 88x80 5.50 34-inch plain combed sold during the last few days at 11c, with mills now holding for 11¼c, which appears to be the best that can be done at the close of the week. The demand for this style has come from those preparing children's dress patterns.

With good demand for print cloths during the week the estimated sales at Fall River are placed slightly better than 100,000 pieces. Spot goods are very scarce in this market, as the result of the demand, and mills in a number of cases have been successful in advances asked. Trading has cornered a variety of styles, comprising practically the entire list, and some buyers have been forced to place business for some months ahead. Wide and narrow prints have been in demand with 36-inch constructions are enjoying a good call.

Cotton goods prices were as follows:

Print cloths, 28-in., 64x64s.	5¼
Print cloths, 28-in., 64x60s	5
Print cloths, 27-in., 64x60s.	4⅞
Gray g'ds., 38½-in., 64x64s.	7⅝
Gray goods, 39-in., 68x72s.	7⅞
Gray, goods, 39-in., 80x80s.	10
Brown sheetings, 3-yard...	10
Brown sh't'gs, 4-yd., 56x60s	8¾
Brown sheetings, stand. ...	11
Tickings, 8-oz.	17½a19½
Denims	14½
Staple ginghams, 27-in., ...	9
Kid cambrics	8½a 9
Dress ginghams	12½a16½
Standard prints	8

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The Yarn Market

Philadelphia, Pa.—There was little if any change in the yarn markets during the week. Spinners and yarn consumers are apparently deadlocked for the present over the price situation. Buyers continued their efforts to purchase yarn well under spinners prices. The latter however, continued firm in their price ideas and would not accept the lower offers. There some reports of small sales at concessions, but these were exceptions and little business under market quotations was done.

The attitude of buyers is that yarn prices are going lower later on and therefore they are unwilling to buy more yarn than they need to handle their immediate needs. On the other hand, spinners see nothing in the situation to mean that yarn prices are to be cheaper. At present prices, yarns are not showing a satisfactory profit margin and with the firm cotton markets spinners are not willing to name lower quotations.

The filling in business during the week was somewhat larger on knitting yarns than on the weaving counts. Insulating yarns were bought in small lots under very competitive conditions.

Market opinion here is that there is little likelihood of any material change in the situation for the next several weeks. Spinners, as a rule, are comfortably under order for some weeks. With consumers marking time, and buying only as they get orders for their own products, no active trading is expected for a time.

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8s	25
10s	25½
12s	26½
16s	28
20s	29
24s	32
26s	33
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40s	45
40s ex.	49

Southern Two-ply Skeins.

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10s		25½
12s		26
14s		27
16s		28
20s		29
24s		31½
26s		33
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30s*	31½
40s	43

Southern Combed Peeler Skeins, Etc.—Two-ply.

16s	40
20s	[illegible]
30s	[illegible]
36s	50
40s	53
50s	59
60s	67
70s	79
80s	89

Southern Combed Peeler Cones.

10s	34½
12s	35
14s	36
16s	37
18s	38
20s	39
22s	40½
24s	42
26s	43
28s	44
30s	46
32s	46
34s	48
36s	49
38s	53
40s	54
50s	61
60s	66

Ship Cotton to India.

Greenwood, S. C. — One hundred and fifty bales of cotton were shipped recently from the standard warehouse here to a firm at Bombay, India, a distance of approximately 10,000 miles. An interesting fact in connection with the shipments is that the freight from New York to Bombay is 90 points or about a cent a pound.

Rev. Fred T. McGill, of Greenwood, who was a missionary to India for several years, says that in most sections of India cotton is sown as grain is planted in this country and the staple is of the "dog-tail" variety, but the better grade of American cotton is cheaper than can be raised in that country. In some sections of the country, however, notably near Montgomery where the A. R. P. mission is located, British farmers have adopted the American system of growing and planting.

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WARP TYING MACHINES HAND KNOTTERS
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Cotton Cloth and Cotton Yarn
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Double Duty Travelers
Last Longer, Make Stronger Yarn, Run Clear, Preserve the SPINNING RING. The greatest improvement entering the spinning room since the advent of the HIGH SPEED SPINDLE.
Manufactured only by the
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WENTWORTH DOUBLE DUTY TRAVELERS

COLORED COTTON YARNS
4s to 20s single and ply, hosiery and warp twist, direct and sulphur colors in blends, solid colors, heather mixtures, black and white twists, etc.
OF THE HIGHEST QUALITY
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Clean Looms, Good Production, Satisfied Weavers—Means Better Cloth, Better Profits.
You Can Get All of These By Using
Gum Tragasol
A PRODUCT OF MERIT
May we demonstrate for you?
John P. Marston Company
Importers
247 Atlantic Avenue, Boston

Want Department

For Sale

1 pair of Howe automatic cloth room scales, 30" dial registering 500 pounds by pounds with 700 pounds capacity tare beam. Address E. H. H. care Southern Textile Bulletin.

C. M. Byrd

Card mechanic, journeyman card clothier and overhauler. Temporary address, Frosyth Cotton Mill, Forsyth, Ga.

Wanted

One first-class comber man. Must have experience and be a hustler. State salary and give reference in first letter. H. S., care Southern Textile Bulletin.

Wanted

Overseer finishing, putting up and packing for Southern bleachery. Charles P. Raymond Textile Service, 294 Washington St., Boston, Mass.
Confidential service for employers seeking executives and executives seeking new connections.

For Sale

Roller covering machinery as follows:
1 cent bar for sheep skins; 1 drawing on machine with 2 slippers; 1 8-in Scarfer. This machinery good as new at a bargain. Premier Roller Shops, Hillsboro, N. C.

For Sale

1 Beam Warp Dyeing Machine complete
1 Four-burner 46" Gas Singer with Frilling Folder
1 Gas Generating Machine
1 Sixty-foot Clip Tenter and Winder (Textile Fin. Mch. Co.)
1 Wet Finishing Range, two compartment, washing box water mangle, and starch mangle.
1 Hydraulic Baling Press with pump
Also large assortment electric motors, shafting, pulleys, and hangers. Equipment practically new. Address L. G. M., care Textile Bulletin.

Wanted

Southern Textile Bulletin for Sept. 24, 1925, Nov. 26, 1925, Dec. 3, 1925, Jan. 1, 1926, Jan. 14, 1926, July 15, 1926. Library, U. N. C., Chapel Hill, N. C.

Wanted

Combination second hand for small card room to grind 15 cards and do the fixing. Woonsocket speeders and Whitin cards. Mill located 20 miles from Charlotte. Address H. C., care Southern Textile Bulletin.

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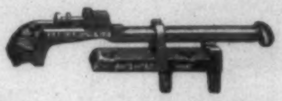

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HIGH SPEED TRIMMING AND OVERSEAMING, OVEREDGING AND SHELL STITCH MACHINES
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For simultaneously trimming and joining with a Flat Butted Seam the ends of Cotton, Woolen or Silk Piece Goods for Subsequent Processing.
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EMPLOYMENT BUREAU

The fee for joining our employment bureau for three months is $2.00 which will also cover the cost of carrying a small advertisement for two weeks.

If the applicant is a subscriber to the Southern Textile Bulletin and his subscription is paid up to the date of his joining the employment bureau the above fee is only $1.00.

During the three months' membership we send the applicant notices of all vacancies in the position which he desires and carry small advertisements for two weeks.

We do not guarantee to place every man who joins our employment bureau, but we do give them the best service of any employment bureau connected with the Southern Textile Industry.

WANT position as overseer carding. Would prefer job where card room is in very bad condition. 28 years old, married and have family. A-1 references as to character and ability. No. 5120.

WANT position as overseer weaving. Experienced and can furnish the best of references. No. 5121.

WANT position as master mechanic. 25 years experience in cotton mill shops. Can handle steam, water and electric drives and welding. Can give good references. No. 5122.

WANT position as overseer of spinning, or second-hand in large mill. 15 years experience in mill and 8 years as second-hand and overseer. Can give good references. No. 5123.

WANT position as overseer carding and spinning, or of carding. Long experience. Good references. No. 5124.

WANT position as overseer of card room in small mill, or second-hand in large mill. Good references. No. 5125.

WANT position as overseer spinning. 7 years experience as overseer of spinning; good experience in carding. I. C. S. graduate. Can change on short notice. No. 5126.

WANT position as overseer carding and spinning, or carding or spinning. Experienced. Can furnish good references. No. 5127.

WANT position as superintendent of cotton, carding, spinning and weaving. Have both practical and technical knowledge of cotton manufacturing. Now in charge of carding and spinning, and wish to change only for a better position. Can furnish good references as to character and qualifications. No. 5128.

WANT position as chief engineer or master mechanic. Several years experience on both steam and electric power. Can handle machine shop in first class manner. Best of references. No. 5129.

WANT position as overseer spinning, or carding and spinning or superintendent of yarn mill. Experienced. Can furnish good references. No. 5130.

WANT position as overseer of weaving. No record, but ability to make one. Now employed as second hand. 32 years of age, married and have family. Reference as to character. No. 5131.

WANT position as overseer spinning, or large second hand job. Now running spinning at night but want day job. Can furnish good references. No. 5132.

WANT position as superintendent of yarn mill or plain weave mill. Would prefer a mill that is run down and needs bringing up. Good references. No. 5133.

WANT position as overseer carding, spinning, spooling, winding, warping and twisting. I. C. S. graduate. 13 years experience as overseer and assistant superintendent. 38 years of age. Best of reference. No. 5134.

WANT position as overseer carding, or would accept carding and spinning at night. Overseer for 13 years. Experienced on combers and double carding. Can furnish good references. No. 5135.

WANT position as master mechanic. 12 years experience in steam, water and electric power, shop work, welding and ice making. Married. 35 years of age. Good references. No. 5136.

WANT position as superintendent, carder, or spinner, or overseer of carding and spinning. Best of references. No. 5137.

WANT position as superintendent of small or medium yarn mill, or as overseer carding and spinning in large mill. Ten years experience as overseer carding and spinning on all kinds of colored novelties and weaving yarn; also knitting yarns. Want place that pays at least $36.00 per week. 31 years of age, married and have family. Can furnish good references as to my experience and ability. No. 5138.

WANT position as weave room overseer; either plain or fancy weave room. Several years experience on plain and fancy weaves, leno box weaves, and silk filled weaves. No. 5139.

WANT position as overseer of carding or spinning, or both carding and spinning. Now employed but wish to make a change. Can give the best of references. No. 5140.

WANT position as master mechanic. 12 years experience in cotton mill shops; 6 years in contract shop. Reasonable salary. No. 5141.

WANT position as superintendent. Could change on thirty days notice. Good references. No. 5142.

WANT position as roller coverer. 12 years experience. 27 years of age, single and strictly sober. Can take charge as foreman. A-1 references. No. 5143.

WANT position as overseer weaving, slashing, spooling and warping in some mill east of Mississippi River. Can run any job on Draper looms, 2-3-3-4-5-6 harness goods. Strictly sober. I. C. S. student and hustler for production and low seconds. Good references. No. 5144.

WANT position as superintendent of yarn mill. Have had long experience in carding and spinning and am confident can run a mill and make money. Have a good textile education and have made a sucessful overseer. Reliable and strictly sober. No. 5145.

WANT position as roller coverer and belt man. 22 years experience. 34 years of age, married, strictly sober and reliable. Can furnish good references and can change at once. No. 5146.

WANT position as superintendent of either yarn or weave mill. Would consider position as overseer of weaving in large mill. Good references. No. 5147.

WANT position as overseer of weaving, plain or fancy; overseer of spinning, medium numbers; or overseer of carding, medium numbers, white. Good references. No. 5148.

WANT position as overseer of weaving, or clothroom. 20 years practical experience. Graduate of I. C. S. 35 years of age and married. Now employed as overseer, but desire better position. Good references. No. 5149.

WANT position as overseer of weaving. 5 years experience and can furnish the best of references. No. 5150.

WANT position as superintendent. Experience not confined to any one or two departments, as is usually the case, but prior to promotion to superintendent's position, was successfully and successively overseer of carding, and of spinning and weaving. Good references. No. 5151.

WANT position as master mechanic. Can handle steam or electric plant. 42 years of age and have family. Good references. No. 5152.

WANT position as cotton grader. Can furnish good references. No. 5153.

WANT position as overseer of carding, day or night jobs, at $30.00 or more per week. 34 years of age. 10 years experience in carding, and can guarantee quality and quantity. No. 5154.

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SPINNA CALF
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Spinna Calf is made of high grade calfskins especially tanned for covering top rolls. It presents the following advantages:

Fewer wind-ups
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Special attention given by practical men to specialties for Sizing, Softening, Finishing and Weighting Cotton, Woolen and Worsted Fabrics; combining the latest European and American methods.

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Wickwire Spencer Steel Co.
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Rogers Fibre Co.
Spaulding Fibre Co.
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A. Kilpstein & Co.
Seydel Chemical Company
Seydel-Woolley Co.
L. Sonneborn Sons Co.
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B. S. Roy & Son Co.
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Gears—
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——See Heddles and Frames
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  - Klauder Weldon Dyeing Machine Division, H. W. Butterworth & Sons Co.
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  - Mossberg Pressed Steel Corp.
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  - Woonsocket Machine & Press Co., Inc.
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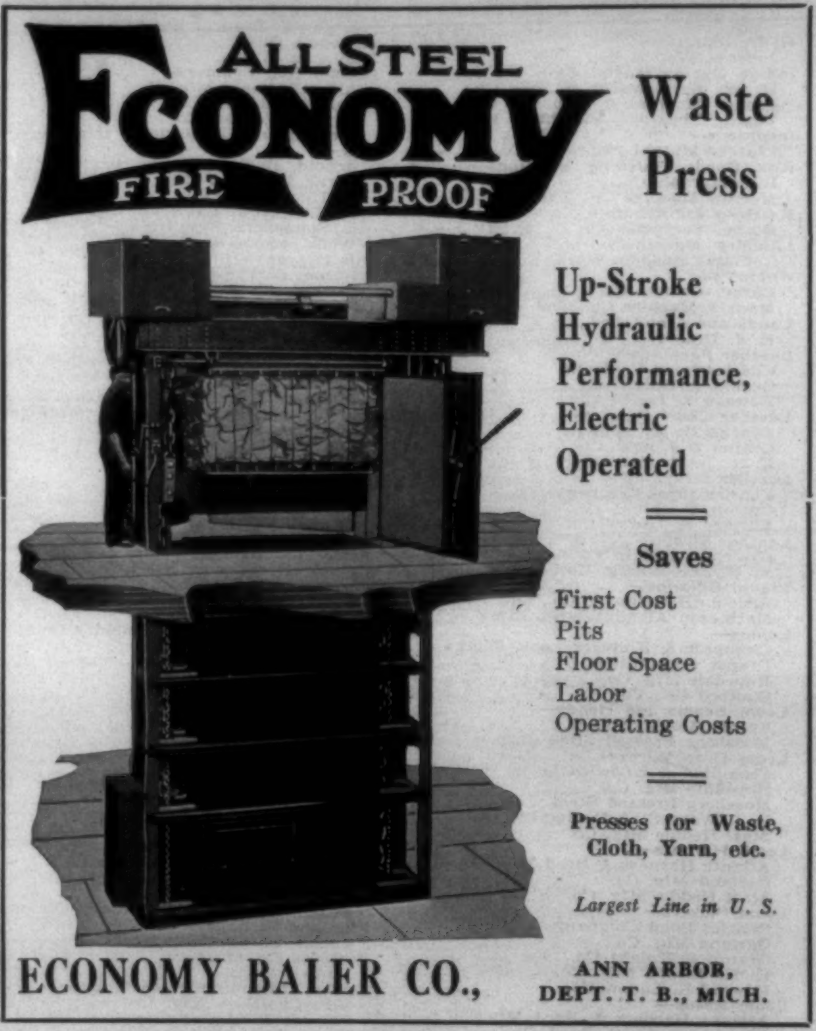

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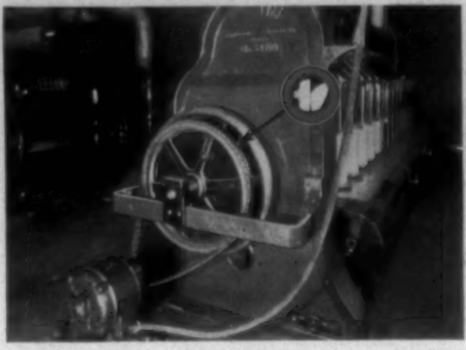


Morse Silent Chain Drive from motor to slubber

A large number of textile mills appreciate the advantages they obtain by using Morse Silent Chain Drives for power transmission.

They know that the 98.6% efficiency of Morse Drives, possible with the Rocker-Joint construction, increases production and gives better yarns at lower costs.

You, too, can have these advantages. Consult the nearest Morse Transmission Engineer.

MORSE CHAIN CO., ITHACA, N. Y., U. S. A.

Atlanta, Ga.
Baltimore, Md.
Birmingham, Ala.
Buffalo, N. Y.
Boston, Mass.
Chicago, Ill.
Charlotte, N. C.
Cleveland, Ohio
Denver, Col.
Detroit, Mich.
Louisville, Ky.
Minneapolis, Minn.
New Orleans, La.
New York, N. Y.
Omaha, Neb.
Philadelphia, Pa.
Pittsburg, Pa.
San Francisco, Cal.
St. Louis, Mo.
Toronto, Ont., Can.
Winnipeg, Man., Can.

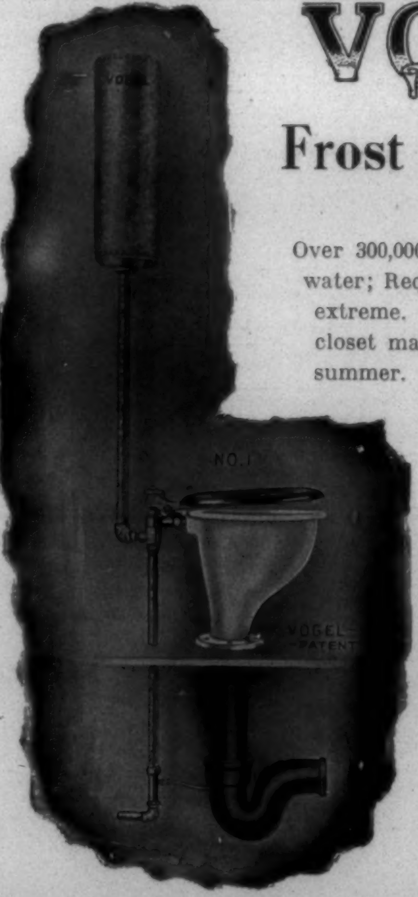
MORSE SILENT CHAIN DRIVES

THE MORSE "ROCKER JOINT"

O S T 1382

VOGEL
PATENTED

Frost Proof Closets



Over 300,000 giving satisfaction. Save water; Require no pit; Simple in the extreme. The most durable water closet made. In service winter and summer.

Enameled roll flushing rim bowls.

Heavy brass valves.

Strong hardwood seat.

Heavy riveted tank.

Malleable seat castings will not break.

SOLD BY JOBBERS EVERYWHERE

Joseph A. Vogel Co. Wilmington, Del.

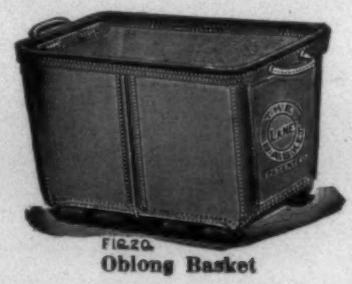


FIG. 20.
Oblong Basket

LANE

Patent Steel Frame

Canvas Mill Baskets

Lane Basket users may enjoy the direct benefits which follow naturally the successful manufacturing and marketing of a thoroughly tried and standardized article for more than 25 years in textile mills.

W. T. Lane & Brothers

Originators and Manufacturers of Canvas Baskets for 25 years

Poughkeepsie, N. Y.

The Stafford Automatic consistently produces fine fabrics

Fabrics when made on this loom, because of their superior quality, command a high selling value.

The Stafford Automatic is a most efficient and economical loom, and is dependable for a wide range of plain and fancy weaving.

We solicit your inquiries about weaving machinery

THE STAFFORD COMPANY
Weaving Machinery · READVILLE, MASS.

Southern Agent . . . . FRED H. WHITE, Charlotte, N. C.
Paterson Office . . . . 179 Ellison Street, Paterson, N. J.
Canadian Representatives ROSS WHITEHEAD & CO., LTD., Montreal, Canada

13

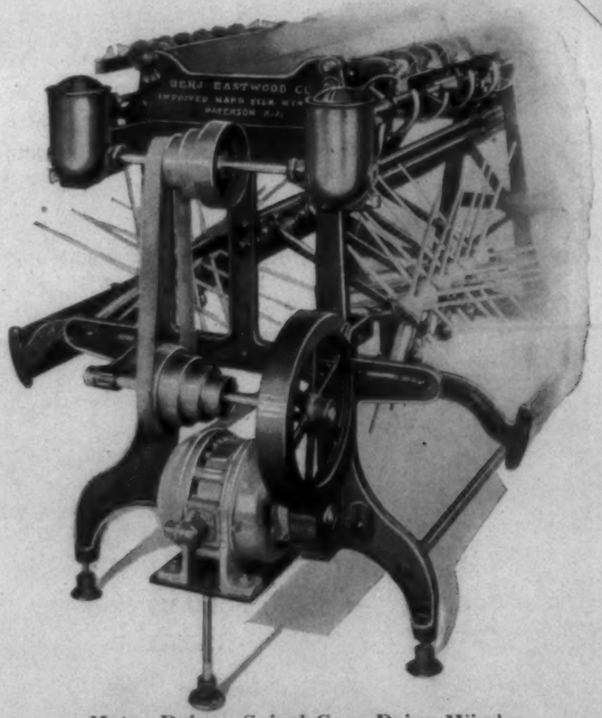
Confidence

in the ability of the EASTWOOD Skein Winder to handle Silk and Rayon in every branch is what you feel—after seeing this Spooler in operation.

A particular type for every requirement
Ask for a demonstration

Benjamin Eastwood Company
Plant at Paterson, N. J., since 1872

Represented in the South by
CAROLINA SPECIALTY CO., CHARLOTTE, N. C.



Motor Driven Spiral Gear Drive Winder
1927 Model

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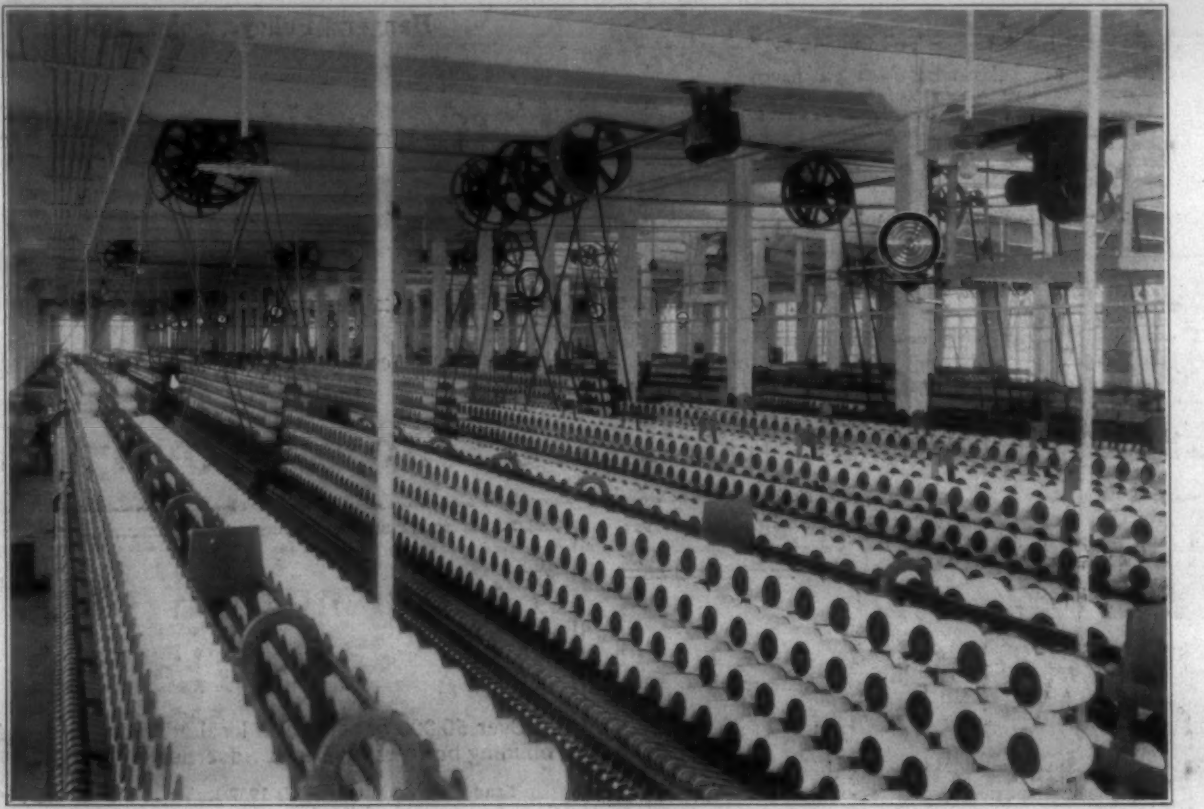
SOUTHERN TEXTILE BULLETIN

VOL. 32 CHARLOTTE, N. C., THURSDAY, MARCH 17, 1927 NUMBER 3



Bahnson Humidifiers—reliable, automatic sentinels—take care of the humidity needed in Amazon Cotton Mills, Thomasville, N. C.

Confidence In Your Humidifiers:

You know they are maintaining the *correct* amount of humidity in all parts of the room, and the continuous air circulation they produce is forcing the moisture into the material evenly and thoroughly so that the yarn or cloth always comes through in standard weight;

You know these reliable machines are giving just the results you want at a surprisingly low maintenance cost;

Because they are BAHNSON HUMIDIFIERS, and you can always reply on Bahnsons.

The Bahnson Company

Humidification Engineers

Winston-Salem, N. C. **New York Office: 93 Worth Street**

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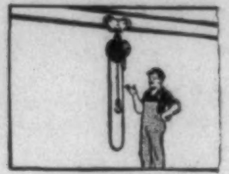
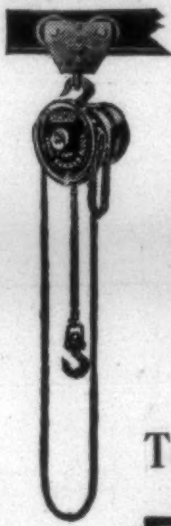
Five Men and a Hand-Truck

equal



One Man and a Yale Spur-Geared Chain Block on a I beam trolley.



AND the one man with the Yale equipment will perform the same work in the Safest Way, take up less working space, and do it quicker.

The Yale Spur-Geared Block is the *safest*, speediest, portable hand hoist.

"From Hook-to-Hook-a-Line-of-Steel"

The new Yale catalog shows you many ways to save money and increase production in your plant by using Yale Chain Blocks and Electric Hoists.

Let us send you your copy

Textile Mill Supply Co.

YALE

Textile Mill Supply Co.

INCORPORATED 1898

CHARLOTTE, N. C.

AGENTS FOR

Graton & Knight
Leather Belting

The Dana S. Courtney Co.
Bobbins, Spools etc.

DODGE
Hangers, Pulleys, Couplings

Card Clothing **Reeds**

WYANDOTTE

Concentrated Ash Textile Soda K. B. Special Ash Detergent

We Carry a Complete Stock and Can Make Immediate Shipment

Everything In Mill and Factory Supplies

Starch

and these Stars have a meaning

—They signify the different grades in which Thin Boiling Eagle Starch is offered to the Textile Industry.

Being the pioneers in the manufacture of Thin Boiling Starches, we are gratified at the widespread recognition they have received.

Be sure to select the grade best suited to your work. Our knowledge and experience are at your service.

CORN PRODUCTS REFINING COMPANY
17 Battery Place **New York City**

Selling Representatives:

Corn Products Sales Co.
47 Farnsworth Street
Boston, Mass.

Corn Products Sales Co.
Woodside Building
Greenville, S. C.

Starch

The Foundation of Advertising Is The List

Over 50,000 national and local advertisers are using Boyd's Lists in building business by Direct Advertising.

Send for a copy of Boyd's 1927 leaflet of Dry Goods and kindred Lists, giving State figures on the following:

43,719	Dry Goods and Department Stores, U. S., price	$100.00
23,864	Dry Goods worth over $5,000	60.00
19,178	Dry Goods worth over 10,000	50.00
9,769	Dry Goods worth over 50,000	35.00
3,893	Dry Goods worth over 100,000	15.00
198	Dry Goods (Headquarters) with 3 or more Branches	5.00
2,971	Dry Goods located in Canada	25.00
1,668	Dry Goods Wholesale	10.00
747	Dry Goods, Exporters	6.00
54,154	Retail Clothiers and Men's Furnishers	150.00
30,844	Retail Clothiers worth over $5,000	85.00
8,212	Sporting Goods Dealers	50.00
5,900	Sporting Goods worth over $5,000	35.00
6,536	Department Stores	7.50
1,385	Army and Navy Stores	7.50
2,961	Five and Ten Cent and Similar Stores	7.50
272	Five and Ten Cent Buying Headquarters	4.00
5,193	Variety and Racket Stores not duplicating with Five and Ten	20.00
7,925	Retail Women's Furnishings not duplicating with Department Stores	35.00

Our Catalogue No. 56 contains 8,000 Lists. Ask for a copy. Names of any kind—any place—any quantity.

Boyd's City Dispatch

Established 1830

Edgar J. Williams, Manager

Office: 114-120 East 23rd Street, New York City
Receiving and Shipping Departments: 115-119 East 22nd St.

Direct Mail Service of Addressing, Mailing, Letters, to above Lists.

Unrivalled softness and pliability

NO textile fiber is so elastic as Celanese brand yarn. None is so soft and pliable.

Unique physical properties such as these are responsible for the astonishing ease with which Celanese brand yarn can be worked. Hour after hour it goes through the machines with never a break. Not just now and then, but always.

Those same physical properties confer upon Celanese brand fabrics extreme durability, permanent beauty, a superb hand, and exquisite draping quality.

Celanese brand yarn lowers your production costs and increases your production speed. Let us send you full information.

CELANESE
REG. U.S. PAT. OFF.
BRAND YARNS

The AMERICAN CELLULOSE & CHEMICAL
MANUFACTURING COMPANY, *Ltd*

15 EAST 26TH STREET, NEW YORK

WORKS AT AMCELLE (NEAR CUMBERLAND) MARYLAND

SOUTHERN REPRESENTATIVE: TODD B. MEISENHEIMER, 1116 JOHNSTON BUILDING
CHARLOTTE, N. C.

CELANESE is the registered trademark, in the United States, of The American Cellulose & Chemical Manufacturing Company, Ltd., to designate its brand of yarns, fabrics, garments, etc

Across-the-Line Starters

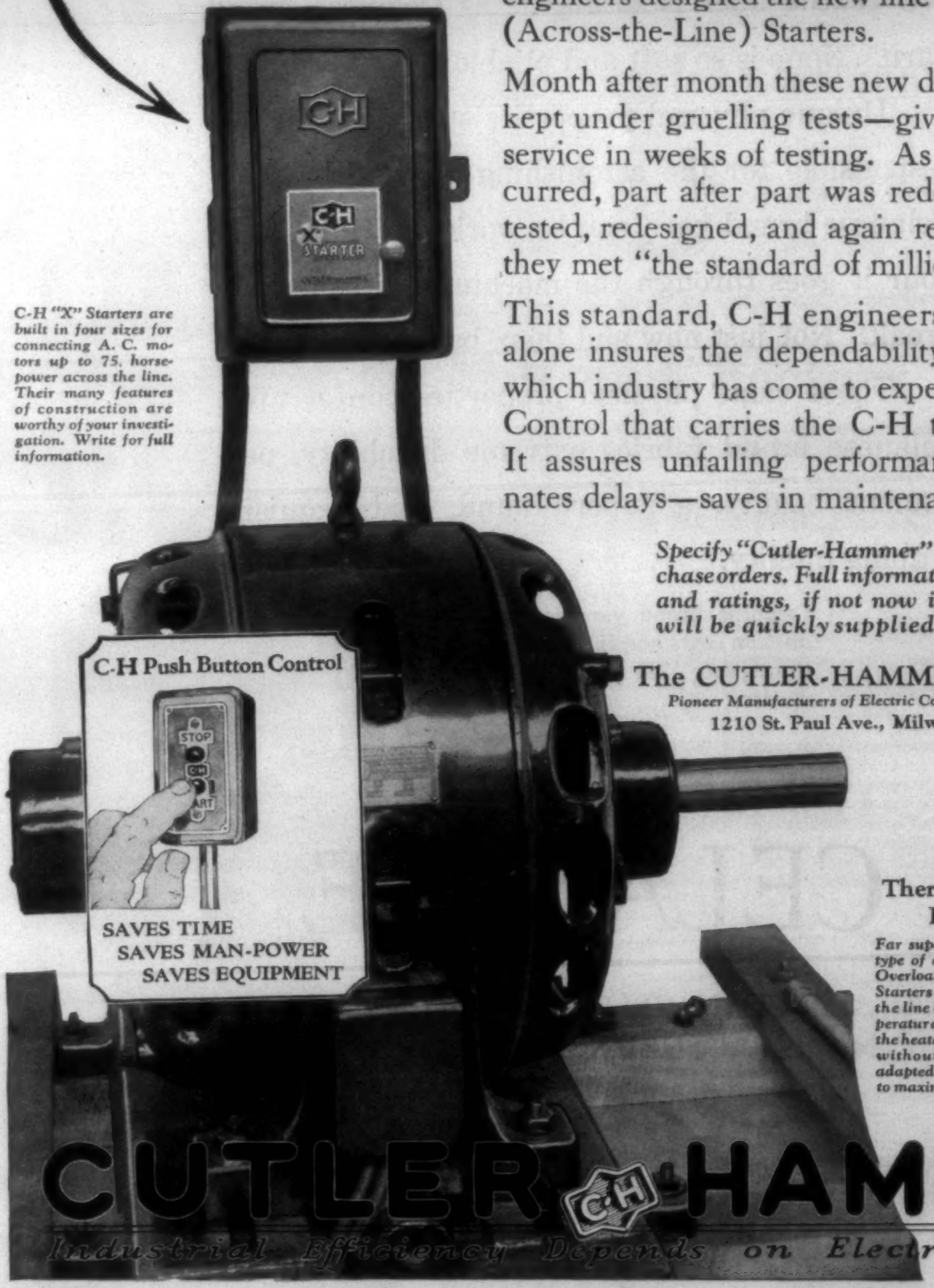
built to "the standard of millions"

NOT thousands, not hundreds of thousands—but *millions* of operations—this is the standard to which Cutler-Hammer engineers designed the new line of C-H "X" (Across-the-Line) Starters.

Month after month these new designs were kept under gruelling tests—given years of service in weeks of testing. As failures occurred, part after part was redesigned, retested, redesigned, and again retested until they met "the standard of millions."

This standard, C-H engineers maintain, alone insures the dependability in service which industry has come to expect of Motor Control that carries the C-H trade mark. It assures unfailing performance—eliminates delays—saves in maintenance.

C-H "X" Starters are built in four sizes for connecting A. C. motors up to 75 horsepower across the line. Their many features of construction are worthy of your investigation. Write for full information.



Specify "Cutler-Hammer" on your purchase orders. Full information as to sizes and ratings, if not now in your files, will be quickly supplied on request.

The CUTLER-HAMMER Mfg. Co.
Pioneer Manufacturers of Electric Control Apparatus
1210 St. Paul Ave., Milwaukee, Wisconsin

Thermal Overload Protection

Far superior to the magnetic type of overload, the Thermal Overload Relay on C-H "X" Starters cuts the motor from the line only at dangerous temperatures. By simply changing the heater coils, the same starter without compromise can be adapted to any size motor up to maximum capacity.

CUTLER-HAMMER

Industrial Efficiency Depends on Electrical Control